User Manual

Read and understand this manual before using machine.

20” PLANER

Model No. 40270

STEEL CITY TOOL WORKS

Manual Part No. OR71873

THANK YOU for purchasing your new Steel City Planer. This planer has been designed, tested, and inspected with you, the customer, in mind. When properly used and maintained, your planer will provide you with years of trouble free service, which is why it is backed by one of the longest machinery warranties in the business.

This planer is just one of many products in the Steel City's family of woodworking machinery and is proof of our commitment to total customer satisfaction.

At Steel City we continue to strive for excellence each and every day and value the opinion of you, our customer. For comments about your planer or Steel City Tool Works, please visit our web site at **www.steelcitytoolworks.com** .

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INTRODUCTION

This user manual is intended for use by anyone working with this machine. It should be kept available for immediate reference so that all operations can be performed with maximum efficiency and safety. Do not attempt to perform maintenance or operate this machine until you have read and understand the information contained in this manual.

This Planer is designed to process wood only. Any other use is forbidden. This machine is not to be modified for any reasons.

The drawings, illustrations, photographs, and specifications in this user manual represent your machine at time of print. However, changes may be made to your machine or this manual at any time with no obligation to Steel City Tool Works.

WARRANTY

STEEL CITY TOOL WORKS
5 YEAR LIMITED WARRANTY

Steel City Tool Works, LLC ("SCTW") warrants all "STEEL CITY TOOL WORKS" machinery to be free of defects in workmanship and materials for a period of 5 years from the date of the original retail purchase by the original owner. SCTW will repair or replace, at its expense and at its option, any SCTW machine, machine part, or machine accessory which in normal use has proven to be defective, provided that the customer returns the product, shipping prepaid, to an authorized service center with proof of purchase and provides SCTW with a reasonable opportunity to verify the alleged defect by inspection. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, or lack of maintenance, or to repairs or alterations made or specifically authorized by anyone other than SCTW. Normal wear components are also excluded under this coverage. Every effort has been made to ensure that all SCTW machinery meets the highest quality and durability standards. We reserve the right to change specifications at any time due to our commitment to continuous improvement of the quality of our products.

EXCEPT AS SET FORTH ABOVE, SCTW MAKES NO EXPRESS OR IMPLIED REPRESENTATIONS OR WARRANTIES WITH RESPECT TO ITS MACHINERY, OR ITS CONDITION, MERCHANTABILITY, OR FITNESS FOR ANY PARTICULAR PURPOSE OR USE. SCTW FURNISHES THE ABOVE WARRANTIES IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY SPECIFICALLY DISCLAIMED.

SCTW SHALL NOT BE LIABLE FOR ANY (A) SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOSS OF PROFITS, ARISING FROM OR RELATED TO THIS WARRANTY, THE BREACH OF ANY AGREEMENT OR WARRANTY, OR THE OPERATION OR USE OF ITS MACHINERY, INCLUDING WITHOUT LIMITATION DAMAGES ARISING FROM DAMAGE TO FIXTURES, TOOLS, EQUIPMENT, PARTS OR MATERIALS, DIRECT OR INDIRECT LOSS CAUSED BY ANY OTHER PARTY, LOSS OF REVENUE OR PROFITS, FINANCING OR INTEREST CHARGES, AND CLAIMS BY ANY THIRD PERSON, WHETHER OR NOT NOTICE OF SUCH POSSIBLE DAMAGES HAS BEEN GIVEN TO SCTW; (B) DAMAGES OF ANY KIND FOR ANY DELAY BY OR FAILURE OF SCTW TO PERFORM ITS OBLIGATIONS UNDER THIS AGREEMENT; OR (C) CLAIMS MADE A SUBJECT OF A LEGAL PROCEEDING AGAINST SCTW MORE THAN ONE (1) YEAR AFTER SUCH CAUSE OF ACTION FIRST AROSE.

The validity, construction and performance of this Warranty and any sale of machinery by SCTW shall be governed by the laws of the Commonwealth of Pennsylvania, without regard to conflicts of laws provisions of any jurisdiction. Any action related in any way to any alleged or actual offer, acceptance or sale by SCTW, or any claim related to the performance of any agreement including without limitation this Warranty, shall take place in the federal or state courts in Allegheny County, Pennsylvania.

STEEL CITY TOOL WORKS

WARRANTY CARD

Name _____
Street _____
Apt. No. _____
City _____ State _____ Zip _____
Phone Number _____
E-Mail _____

Product Description: _____
Model No.: _____
Serial No. _____

The following information is given on a voluntary basis and is strictly confidential.

1. Where did you purchase your STEEL CITY machine?
   Store: _____
   City: _____

2. How did you first learn of Steel City Tool Works?
   ___ Advertisement ___ Mail Order Catalog
   ___ Web Site ___ Friend
   ___ Local Store Other_____

3. Which of the following magazines do you subscribe to?
   ___ American Woodworker ___ American How-To
   ___ Cabinetmaker ___ Family Handyman
   ___ Fine Homebuilding ___ Fine Woodworking
   ___ Journal of Light Construction ___ Old House Journal
   ___ Popular Mechanics ___ Popular Science
   ___ Popular Woodworking ___ Today's Homeowner
   ___ WOOD ___ Woodcraft
   ___ WOODEN Boat ___ Woodshop News
   ___ Woodsmith ___ Woodwork
   ___ Woodworker ___ Woodworker's Journal
   ___ Workbench Other_____

4. Which of the following woodworking / remodeling shows do you watch?
   ___ Backyard America ___ The American Woodworker
   ___ Home Time ___ The New Yankee Workshop
   ___ This Old House ___ Woodwright's Shop
   Other_____

5. What is your annual household income?
   ___ $20,000 to $29,999 ___ $30,000 to $39,999
   ___ $40,000 to $49,999 ___ $50,000 to $59,999
   ___ $60,000 to $69,999 ___ 70,000 to $79,999
   ___ $80,000 to $89,999 ___ $90,000 +

6. What is your age group?
   ___ 20 to 29 years ___ 30 to 39 years
   ___ 40 to 49 years ___ 50 to 59 years
   ___ 60 to 69 years ___ 70 + years

7. How long have you been a woodworker?
   ___ 0 to 2 years ___ 2 to 8 years
   ___ 8 to 20 years ___ over 20 years

8. How would you rank your woodworking skills?
   ___ Simple ___ Intermediate
   ___ Advance ___ Master Craftsman

9. How many Steel City machines do you own? _____

10. What stationary woodworking tools do you own?
    Check all that apply.
    ___ Air Compressor ___ Band Saw
    ___ Drill Press ___ Drum Sander
    ___ Dust Collection ___ Horizontal Boring Machine
    ___ Jointer ___ Lathe
    ___ Mortiser ___ Panel Saw
    ___ Planer ___ Power Feeder
    ___ Radial Arm Saw ___ Shaper
    ___ Spindle Sander ___ Table Saw
    ___ Vacuum Veneer Press ___ Wide Belt Sander
    Other_____

11. Which benchtop tools do you own? *Check all that apply.*
    ___ Belt Sander ___ Belt / Disc Sander
    ___ Drill Press ___ Band Saw
    ___ Grinder ___ Mini Jointer
    ___ Mini Lathe ___ Scroll Saw
    ___ Spindle / Belt Sander Other_____

12. Which portable / hand held power tools do you own?
    Check all that apply.
    ___ Belt Sander ___ Biscuit Jointer
    ___ Dust Collector ___ Circular Saw
    ___ Detail Sander ___ Drill / Driver
    ___ Miter Saw ___ Orbital Sander
    ___ Palm Sander ___ Portable Thickness Planer
    ___ Saber Saw ___ Reciprocating Saw
    ___ Router Other_____

13. What machines / accessories would you like to see added to the STEEL CITY line?
    _____
    _____

14. What new accessories would you like to see added?
    _____
    _____

15. Do you think your purchase represents good value?
    ___Yes ___ No

16. Would you recommend STEEL CITY products to a friend?
    ___ Yes ___ No

17. Comments:
    _____
    _____
    _____
    _____
    _____

✂ CUT HERE

FOLD ON DOTTED LINE

PLACE
STAMP
HERE

Steel City Tool Works
P.O. Box 10529
Murfreesboro, TN 37129

FOLD ON DOTTED LINE

PRODUCT SPECIFICATIONS

Capacities

Maximum stock width	20-in.
Maximum stock thickness	8-in.
Maximum depth-of-cut	1/8-in.
Minimum length of stock	7-in.
Feed Rate	16-20 FPM

Cutterhead

Speed	5000 RPM
Number of Knives	4
Diameter	3-3/16”
Cuts Per Minute	20,000

Motor Specifications

Type	Induction
Horsepower	5HP
Amps	25
Voltage	230V
Phase	Single
Hertz	60
RPM’s	3450

Product Dimensions

Footprint	22-1/2 x 28-1/2”
Length	55-1/2”
Width	37”
Height	40-3/4”
Weight	795 lbs.

Shipping Dimensions

Carton Type	Wooden Crate
Length	29-1/2”
Width	38-1/2”
Height	48”
Gross Weight	880 lbs.

ACCESSORIES AND ATTACHMENTS

There are a variety of accessories available for your Steel City Product. For more information on any accessories associated with this and other machines, please contact your nearest Steel City distributor, or visit our website at: **www.steelcitytoolworks.com**.

DEFINITION OF TERMS

Workpiece – The wood or lumber that you are working on.

Planing – Refers to the sizing of the lumber to a desired thickness, while creating a level surface.

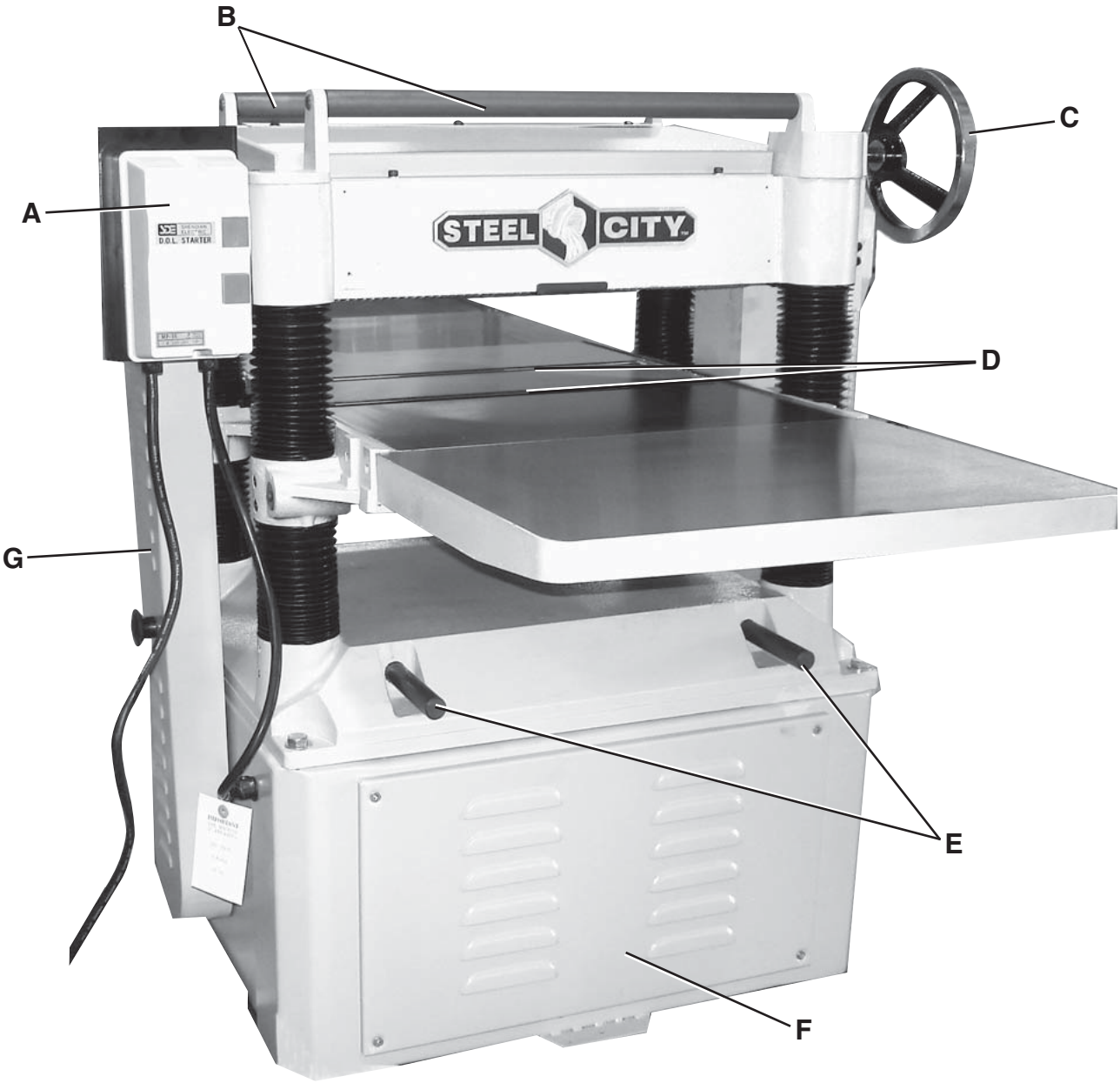
Snipe – Gouging that occurs at the end of a board.

Chatter Marks – An uneven “washboard” type of cut caused by incorrect chipbreaker settings.

Chip Marks – Occurs when knives catch the chips and drag them across the lumber being planed, caused by exhaust blockage or improper chip deflector settings.

Tear Out – Deep gouging caused by improper chip-breaker settings.

FEATURE IDENTIFICATION



A) Switch
B) Return Rollers
C) Table Raise/Lower Handwheel
D) Bed Rollers
E) Lifting Handles
F) Access Panel
G) Belt Guard

GENERAL SAFETY

⚠ WARNING

TO AVOID serious injury and damage to the machine, read and follow all Safety and Operating Instructions before assembling and operating this machine.

This manual is not totally comprehensive. It does not and can not convey every possible safety and operational problem which may arise while using this machine. The manual will cover many of the basic and specific safety procedures needed in an industrial environment.

All federal and state laws and any regulations having jurisdiction covering the safety requirements for use of this machine take precedence over the statements in this manual. Users of this machine must adhere to all such regulations.

Below is a list of symbols that are used to attract your attention to possible dangerous conditions.

⚠

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

⚠ WARNING

Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

⚠ CAUTION

Indicates a potentially hazardous situation, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTICE

This symbol is used to alert the user to useful information about proper operation of the machine.

⚠ WARNING

Exposure to the dust created by power sanding, sawing, grinding, drilling and other construction activities may cause serious and permanent respiratory or other injury, including silicosis (a serious lung disease), cancer, and death. Avoid breathing the dust, and avoid prolonged contact with dust. The dust may contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

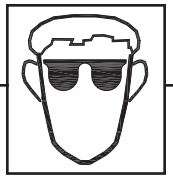
Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks, cement and other masonry products.
- Arsenic and chromium from chemically-treated lumber.

Always operate tool in well ventilated area and provide for proper dust removal. Use a dust collection system along with an air filtration system whenever possible. Always use properly fitting NIOSH/OSHA approved respiratory protection appropriate for the dust exposure, and wash exposed areas with soap and water.

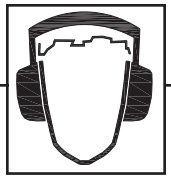
1. To avoid serious injury and damage to the machine, read the entire User Manual before assembly and operation of this machine.

⚠ WARNING



2. **ALWAYS** wear eye protection. Any machine can throw debris into the eyes during operations, which could cause severe and permanent eye damage. Everyday eyeglasses are **NOT** safety glasses. **ALWAYS** wear Safety Goggles (that comply with ANSI standard Z87.1) when operating power tools.

⚠ WARNING



3. **ALWAYS** wear hearing protection. Plain cotton is not an acceptable protective device. Hearing equipment should comply with ANSI S3.19 Standards.

⚠ WARNING

4. **ALWAYS** wear a NIOSH/OSHA approved dust mask to prevent inhaling dangerous dust or airborne particles.

5. **ALWAYS** keep the work area clean, well lit, and organized. **DO NOT** work in an area that has slippery floor surfaces from debris, grease, and wax.

6. **ALWAYS** unplug the machine from the electrical receptacle when making adjustments, changing parts or performing any maintenance.

7. **AVOID ACCIDENTAL STARTING**. Make sure that the power switch is in the "OFF" position before plugging in the power cord to the electrical receptacle.

⚠ WARNING

8. **AVOID** a dangerous working environment. **DO NOT** use electrical tools in a damp environment or expose them to rain.

⚠ WARNING

9. **CHILDPROOF THE WORKSHOP AREA** by removing switch keys, unplugging tools from the electrical receptacles, and using padlocks.

10. **DO NOT** use electrical tools in the presence of flammable liquids or gasses.

11. **DO NOT FORCE** the machine to perform an operation for which it was not designed. It will do a safer and higher quality job by only performing operations for which the machine was intended.

12. **DO NOT** stand on a machine. Serious injury could result if it tips over or you accidentally contact any moving part.

13. **DO NOT** store anything above or near the machine.

14. **DO NOT** operate any machine or tool if under the influence of drugs or alcohol.

15. **EACH AND EVERY** time, check for damaged parts prior to using any machine. Carefully check all guards to see that they operate properly, are not damaged, and perform their intended functions. Check for alignment, binding or breakage of all moving parts. Any guard or other part that is damaged should be immediately repaired or replaced.

16. Ground all machines. If any machine is supplied with a 3-prong plug, it must be plugged into a 3-contact electrical receptacle. The third prong is used to ground the tool and provide protection against accidental electric shock. **DO NOT** remove the third prong.

17. Keep visitors and children away from any machine. **DO NOT** permit people to be in the immediate work area, especially when the machine is operating.

18. **KEEP** protective guards in place and in working order.

19. **MAINTAIN** your balance. **DO NOT** extend yourself over the tool. Wear oil resistant rubber soled shoes. Keep floor clear of debris, grease, and wax.

20. **MAINTAIN** all machines with care. **ALWAYS KEEP** machine clean and in good working order. **KEEP** all blades and tool bits sharp.

21. **NEVER** leave a machine running, unattended. Turn the power switch to the OFF position. **DO NOT** leave the machine until it has come to a complete stop.

22. **REMOVE ALL MAINTENANCE TOOLS** from the immediate area prior to turning the machine ON.

23. **SECURE** all work. When it is possible, use clamps or jigs to secure the workpiece. This is safer than attempting to hold the workpiece with your hands.

24. **STAY ALERT**, watch what you are doing, and use common sense when operating any machine. **DO NOT** operate any machine tool while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating power tools may result in serious personal injury.

25. **USE ONLY** recommended accessories. Use of incorrect or improper accessories could cause serious injury to the operator and cause damage to the machine. If in doubt, **DO NOT** use it.

26. **THE USE** of extension cords is not recommended for 230V equipment. It is better to arrange the placement of your equipment and the installed wiring to eliminate the need for an extension cord. If an extension cord is necessary, refer to the chart in the GROUNDING INSTRUCTIONS section of this manual to determine the minimum gauge for the extension cord. The extension cord must also contain a ground wire and plug pin.

27. Wear proper clothing, **DO NOT** wear loose clothing, gloves, neckties, or jewelry. These items can get caught in the machine during operations and pull the operator into the moving parts. Users must wear a protective cover on their hair, if the hair is long, to prevent it from contacting any moving parts.

28. **SAVE** these instructions and refer to them frequently and use them to instruct other users.

29. Information regarding the safe and proper operation of this tool is also available from the following sources:

    Power Tool Institute
    1300 Summer Avenue
    Cleveland, OH 44115-2851
    www.powertoolinstitute.org

    National Safety Council
    1121 Spring Lake Drive
    Itasca, IL 60143-3201

    American National Standards Institute
    25 West 43rd Street, 4th floor
    New York, NY 10036
    www.ansi.org

    ANSI 01.1 Safety Requirements for
    Woodworking Machines, and the U.S. Department of Labor regulations
    www.osha.gov

PRODUCT SAFETY

1. Serious personal injury may occur if normal safety precautions are overlooked or ignored. Accidents are frequently caused by lack of familiarity or failure to pay attention. Obtain advice from supervisor, instructor, or another qualified individual who is familiar with this machine and its operations.

2. Every work area is different. Always consider safety first, as it applies to your work area. Use this machine with respect and caution. Failure to do so could result in serious personal injury and damage to the machine.

3. Prevent electrical shock. Follow all electrical and safety codes, including the National Electrical Code (NEC) and the Occupational Safety and Health Regulations (OSHA). All electrical connections and wiring should be made by qualified personnel only.

⚠WARNING

4. **TO REDUCE** the risk of electrical shock. **DO NOT** use this machine outdoors. **DO NOT** expose to rain. Store indoors in a dry area.

5. **STOP** using this machine, if at any time you experience difficulties in performing any operation. Contact your supervisor, instructor or machine service center immediately.

6. Safety decals are on this machine to warn and direct you to how to protector yourself or visitors from personal injury. These decals **MUST** be maintained so that they are legible. **REPLACE** decals that are not legible.

7. **DO NOT** leave the unit plugged into the electrical outlet. Unplug the unit from the outlet when not in use and before servicing, performing maintenance tasks, or cleaning.

8. **ALWAYS** turn the power switch “OFF” before unplugging the planer.

⚠WARNING

9. **DO NOT** handle the plug or planer with wet hands.

10. **USE** only accessories as described in this manual. **USE** accessories only recommended by Steel City.

11. **DO NOT** pull the planer by the power cord. **NEVER** allow the power cord to come in contact with sharp edges, hot surfaces, oil or grease.

12. **DO NOT** unplug the planer by pulling on the power cord. **ALWAYS** grasp the plug, not the cord.

13. **REPLACE** a damaged cord immediately. **DO NOT** use a damaged cord or plug. If the planer is not operating properly, or has been damaged, left outdoors or has been in contact with water.

14. **DO NOT** use the planer as a toy. **DO NOT** use near or around children.

15. **ENSURE** that the machine sits firmly on the floor before using. If the machine wobbles or is unstable, correct the problem by using shims or blocks prior to operation.

16. This machine is designed to process **WOOD ONLY**.

⚠ WARNING

17. **NEVER** position fingers or thumbs near the infeed roller.

18. Long pieces of stock should **ALWAYS** be supported with some type of fixture.

19. **DO NOT** operate planer with dull or damaged blades.

20. **MAKE CERTAIN** that the planer is properly adjusted prior to use.

21. **DO NOT** try and remove excessive amounts of wood in one single pass.

22. **INSPECT** all stock before planing, ensuring that there are no foreign objects embedded in the wood, loose knots, or knots that may become loose during operation.

⚠ WARNING

23. **DO NOT** attempt to remove jams until power is disconnected and all moving parts have come to a complete stop.

24. **MAKE SURE** that there is adequate operating space on both the infeed and outfeed sides of the planer before operating.

25. **DO NOT** attempt to plane wood that is less than 7” long or less than 1/8-inch thick.

ELECTRICAL REQUIREMENTS

⚠ WARNING

TO PREVENT electrical shock, follow all electrical and safety codes, including the National Electrical Code (NEC) and the Occupational Safety and Health Regulations (OSHA). All electrical connections and wiring should be made by qualified personnel only.

TO REDUCE the risk of electrical shock, **DO NOT** use machine outdoors. **DO NOT** expose to rain. Store indoors in a dry area.

DO NOT connect the machine to the power source before you have completed the set up process. **DO NOT** connect the machine to the power source until instructed to do so.

The switch provided with your planer is designed for 230V single phase use only. The switch has a power cord with no plug attached. There are many different configurations for 230 V outlets. A UL/CSA approved plug that matches the configuration of your 230V outlet must be installed before you can operate this tool.

GROUNDING INSTRUCTIONS

⚠ WARNING

This machine **MUST BE GROUNDED** while in use to protect the operator from electric shock.

In the event of a malfunction or breakdown, **GROUNDING** provides the path of least resistance for electric current and reduces the risk of electric shock. The plug **MUST** be plugged into a matching electrical receptacle that is properly installed and grounded in accordance with **ALL** local codes and ordinances.

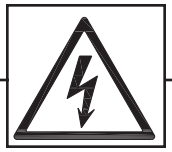
If a plug is provided with your machine **DO NOT** modify the plug. If it will not fit your electrical receptacle, have a qualified electrician install the proper connections to meet all electrical codes local and state. All connections must also adhere to all of OSHA mandates.

IMPROPER ELECTRICAL CONNECTION of the equipment-grounding conductor can result in risk of electric shock. The conductor with the green insulation (with or without yellow stripes) is the equipment-grounding conductor. **DO NOT** connect the equipment-grounding conductor to a live terminal if repair or replacement of the electric cord or plug is necessary.

Check with a qualified electrician or service personnel if you do not completely understand the grounding instructions, or if you are not sure the tool is properly grounded.

PLUGS/RECEPTACLES

⚠ WARNING



- Electrocution or fire could result if this machine is not grounded properly or if the electrical configuration does not comply with local and state electrical codes.
- **MAKE CERTAIN** the machine is disconnected from power source before starting any electrical work.
- **MAKE SURE** the circuit breaker does not exceed the rating of the plug and receptacle.

The motor supplied with your machine is a 230 volt, 60 hertz, single phase motor. Never connect the green or ground wire to a live terminal

A machine with a 230 volt plug should only be connected to an outlet having the same configuration as the plug.

EXTENSION CORDS

⚠ WARNING

To reduce the risk of fire or electrical shock, use the proper gauge of extension cord. When using an extension cord, be sure to use one heavy enough to carry the current your machine will draw.

The smaller the gauge-number, the larger the diameter of the extension cord is. If in doubt of the proper size of an extension cord, use a shorter and thicker cord. An undersized cord will cause a drop in line voltage resulting in a loss of power and overheating.

⚠ CAUTION

USE ONLY a 3-wire extension cord that has a 3-prong grounding plug and a 3-pole receptacle that accepts the machine's plug.

If you are using an extension cord outdoors, be sure it is marked with the suffix "W-A" ("W" in Canada) to indicate that it is acceptable for outdoor use.

Make certain the extension cord is properly sized, and in good electrical condition. Always replace a worn or damaged extension cord immediately or have it repaired by a qualified person before using it.

Protect your extension cords from sharp objects, excessive heat, and damp or wet areas.

MINIMUM RECOMMENDED GAUGE FOR EXTENSION CORDS (AWG)

230 VOLT OPERATION ONLY

	25' LONG	50' LONG	100' LONG
0 to 6 Amps	16 AWG	16 AWG	14 AWG
6 to 8 Amps	16 AWG	16 AWG	12 AWG
8 to 12 Amps	14 AWG	14 AWG	10 AWG
12 to 15 Amps	12 AWG	12 AWG	10 AWG
15 to 20 Amps	10 AWG	10 AWG	Not recommended

UNPACKING & INVENTORY

⚠ WARNING

- The machine is heavy; a forklift or overhead lift are required to lift the machine.
- Use a safety strap to avoid tip over when lifting machine.

Check shipping carton and machine for damage before unpackaging. Carefully remove packaging materials, parts and machine from shipping carton. Always check for and remove protective shipping materials around motors and moving parts. Lay out all parts on a clean work surface.

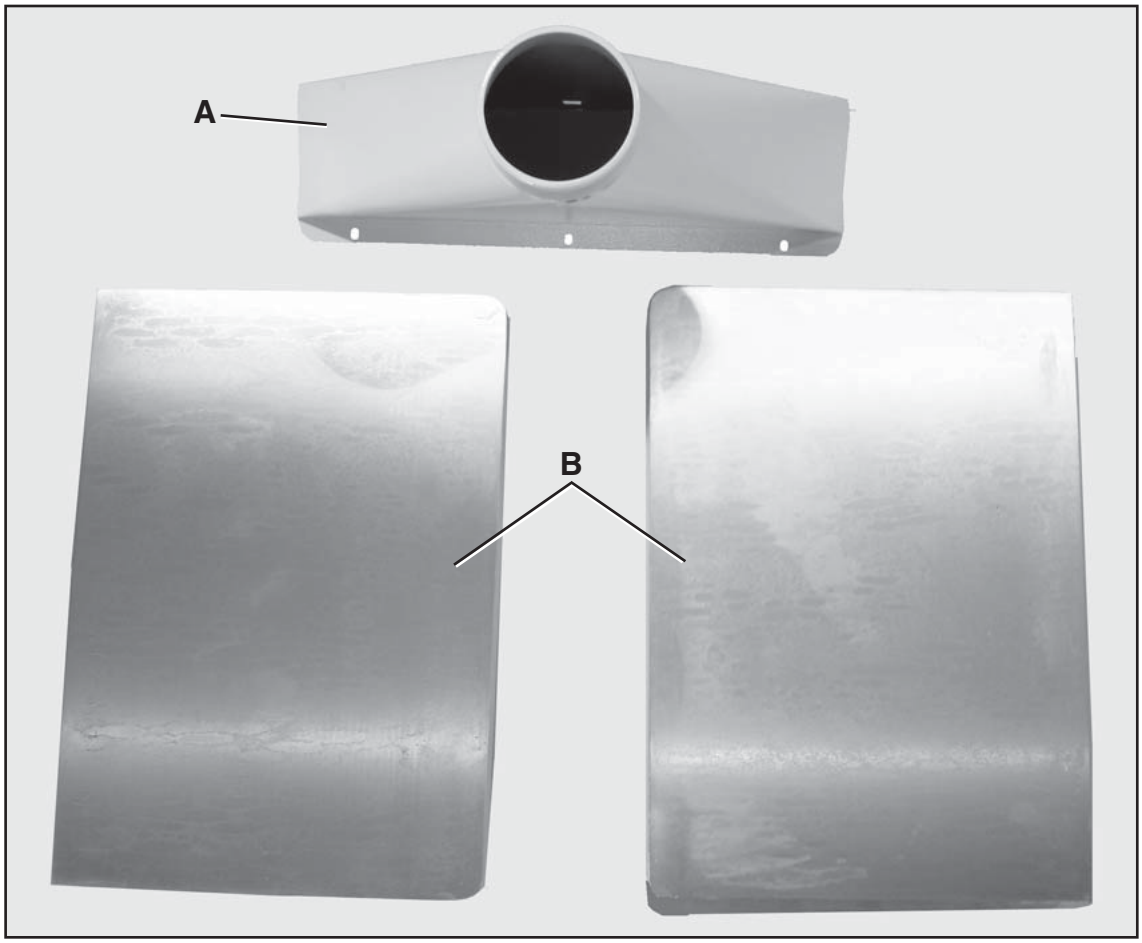
Remove any protective materials and coatings from all of the parts and the planer. The protective coatings can be removed by spraying WD-40 on them and wiping it off with a soft cloth. This may need redone several times before all of the protective coatings are removed completely.

After cleaning, apply a good quality paste wax to any unpainted surfaces. Make sure to buff out the wax before assembly.

Compare the items to inventory figures; verify that all items are accounted for before discarding the shipping box.

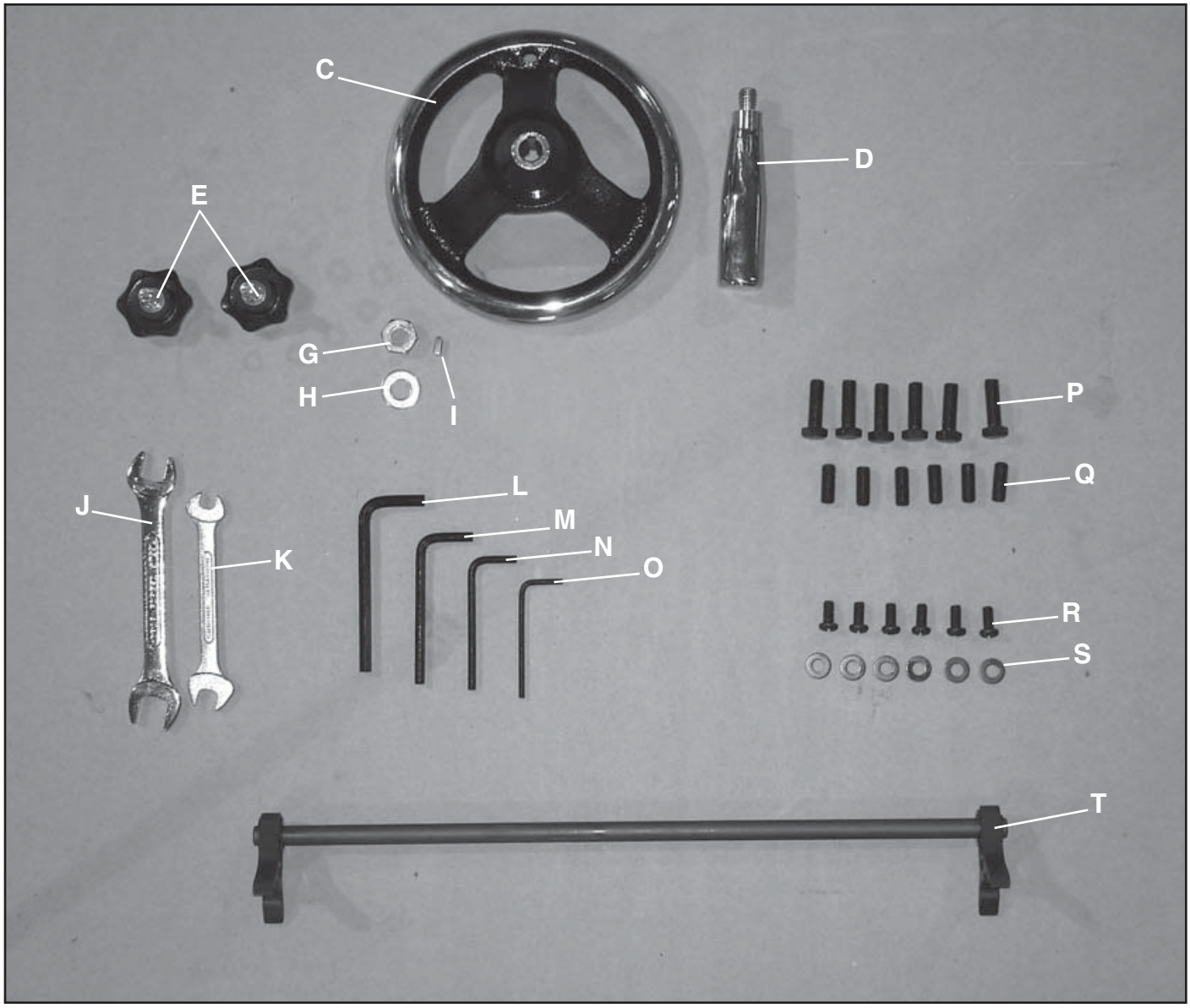
⚠ WARNING

If any parts are missing, do not attempt to plug in the power cord and turn “ON” the machine. The machine should only be turned “ON” after all the parts have been obtained and installed correctly. For missing parts, contact Steel City at 1-877-SC4-TOOL.



A) Dust Port

B) Extension Wings



(C) Handwheel
(D) Handle
(E) Lock Knobs
(G) 10mm Hex Nut
(H) 10mm Flat Washer
(I) Key
(J) 12-14mm Open End Wrench
(K) 8-10mm Open End Wrench
(L) 6mm Allen Wrench
(M) 5mm Allen Wrench
(N) 4mm Allen Wrench
(O) 3mm Allen Wrench
(P) M8 x 25mm Hex Head Screws
(Q) M8 x 20mm Set Screws
(R) M6 Round Head Screws
(S) M6 Flat Washer
(T) Knife Setting Jig

ASSEMBLY

Before beginning assembly, take note of the following precautions and suggestions

⚠ CAUTION

FLOOR

This tool distributes a large amount of weight over a small area. Most commercial floors are appropriate for this unit, however, in residential use, flooring may need added reinforcement to accommodate the weight of the machine and operator.

WORKING CLEARANCES

Take into consideration the size of the material to be processed, space for auxiliary stands, work benches, etc. before setting up this machine. Make sure that you allow enough space for your machine to operate freely.

OUTLET PLACEMENT

Outlets should be located close enough to the machine so that the power cord or extension cord is not in an area where it would cause a tripping hazard. Be sure to observe all electrical codes if installing new circuits and or outlets.

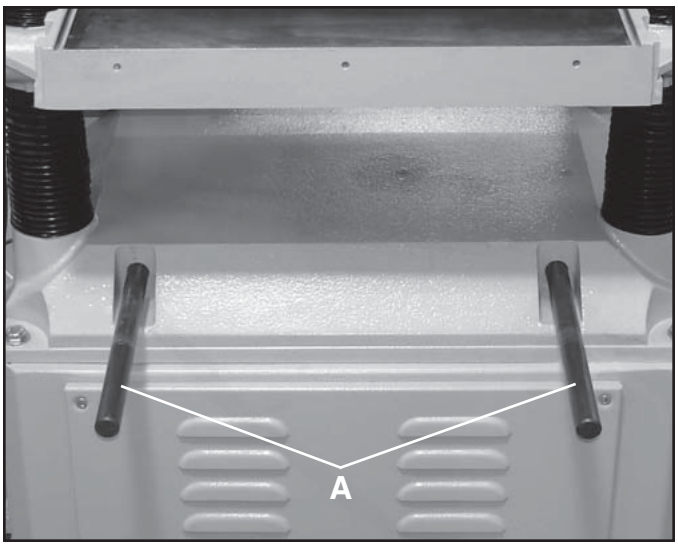
⚠ WARNING

1. **DO NOT** assemble the Planer until you are sure the tool is not plugged in.
2. **DO NOT** assemble the Planer until you are sure the power switch is in the OFF position
3. For your own safety, **DO NOT** connect the machine to the power source until the machine is completely assembled and you read and understand the entire User Manual.

⚠ WARNING

This planer is a very heavy piece of equipment. To assist with moving the unit, this Planer contains lifting handles (A) that slide out from the base of the planer head. SEE FIG 1. These handles can be used as lifting points using a forklift or overhead lift. Attempting to lift this unit without the proper equipment or adequate assistance could result in a serious injury.

Fig. 1

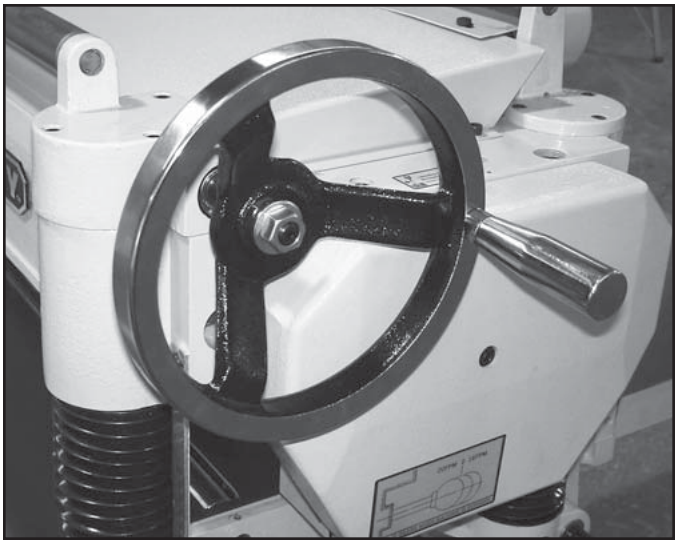


HANDWHEEL

The purpose of the handwheel is for raising and lowering the planer table

1. Locate the handwheel shaft at the front right corner of the planer.
2. Insert the key into the keyway on the handle shaft.
3. Line up the notch in the handwheel with the key and slide the handwheel onto the handle shaft.
4. Slide the direction scale over the shaft, making sure it rests against the center face of the handwheel.
5. Secure the handwheel using one 10mm hex nut and one 10mm flat washer provided. **SEE FIG 2**.
6. Screw handle into the threaded hole on the handwheel.

Fig. 2

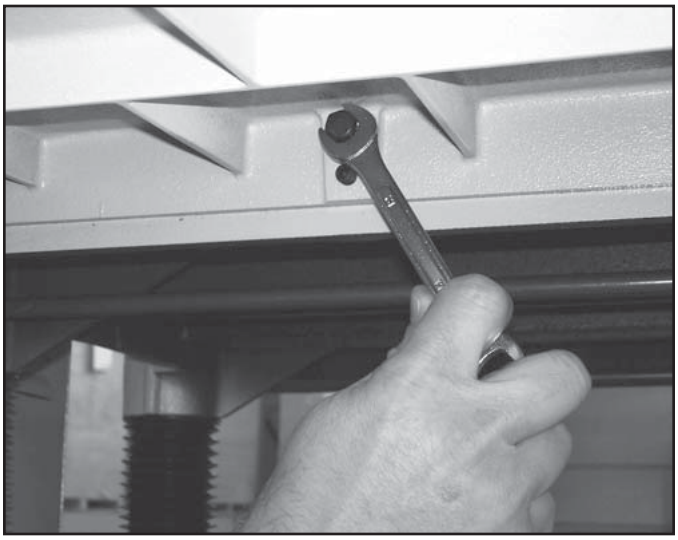


EXTENSION TABLES

The extension tables support the workpiece as it enters and exits the planer.

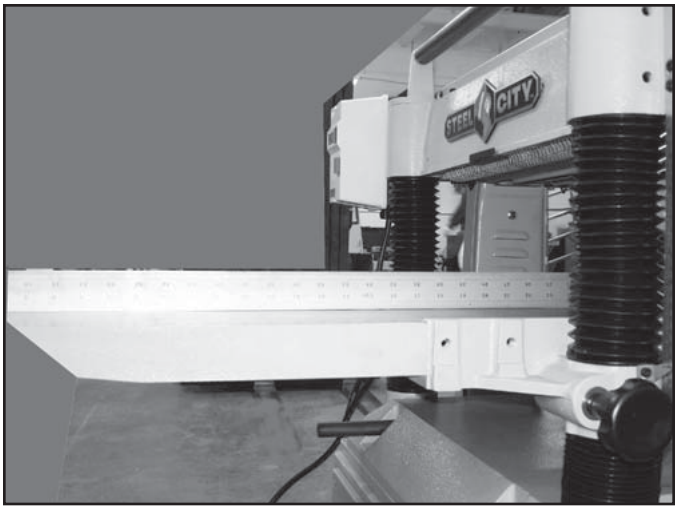
1. To mount the extension tables, thread three M8 x 20mm set screws into the bottom holes of the extension table. Only screw them in about 1/3 of the way for now.
2. Using three M8 x 25mm hex head mounting bolts, mount one extension table to the main table. **SEE FIG 3**.

Fig. 3



3. Place a straight edge on the main table so that it lies flat on the table and extends out over the extension table. **SEE FIG 4**.

Fig. 4



4. Adjust the three set screws until edge of the extension table that is the furthest away from the main table is even with the straight edge. Please note that it may take several combinations of loosening and/or tightening the set screws and mounting bolts to get the extension table level with the main table.
5. Repeat steps 1-4 to attach the other extension table to the other side of the main table.

DUST PORT

This planer features a 5-in Dust Port for use with a dust collection system. If this planer is not to be hooked up to a dust collection system, **DO NOT** attach the dust port.

1. Unbolt the upper cover from the planer to allow access to the screw holes.
2. To attach the dust port, mount the port under the upper cover on the planer.
3. Line up the 3 holes on the top of the dust chute with the 3 holes on the upper cover and fasten with three M6 round head screws, and three M6 flat washers. **SEE FIG 5**.
4. Use three M6 round head screws and three M6 flat washers and fasten the dust port to the body of the planer.
5. Rebolt the upper cover to the planer.

Fig. 5

KNIFE SETTING JIG

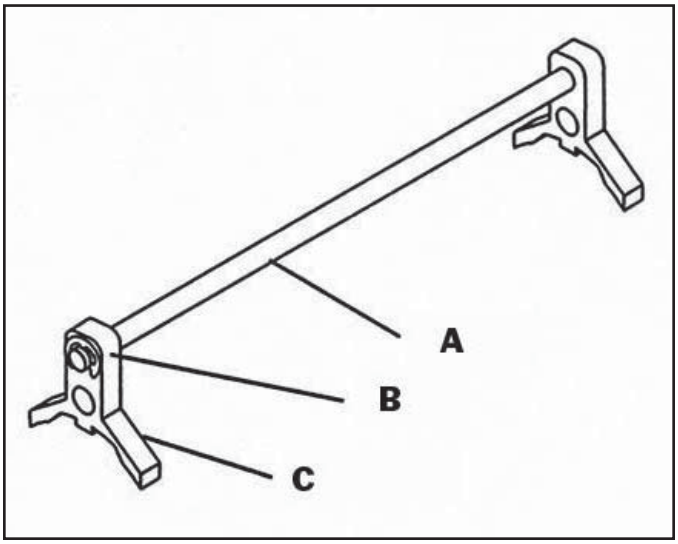
The knife setting jig provides a convenient way to make setting the knives quick and simple.

1. To assemble the knife setting jig, snap one of the e clips (B) over the notch on one end of the knife setting rod (A).
2. Slide both of the knife setting jig brackets (C) onto the rod.
3. Snap on the other e clip to the opposite end of the rod. **SEE FIG 6**.

⚠ CAUTION

Planer knives are extremely sharp. Please use extra caution when your hands are near the blades.

Fig. 6



ADJUSTMENTS

Some of the adjustments covered in this section have already been made at the factory. It is still a good idea to familiarize yourself with all of the following procedures so that you have a solid understanding of the planers operation.

TABLE PARALLELISM ADJUSTMENT

To make adjustments to the table, it is necessary to make a gauge block.

When constructing this block, be sure to use a hardwood such as oak or maple. **DO NOT** use standard 2 x 4 material. A diagram for this block is located near the end of the manual.

NOTICE: A substitute for this gauge block would be to use a magnetic dial indicator. Anywhere it calls for use of the gauge block in this section, you may substitute with the dial indicator.

⚠ WARNING

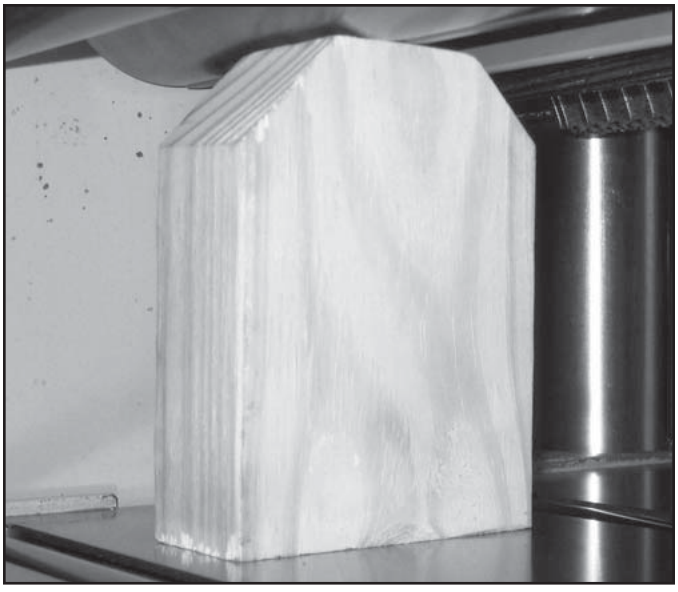
DO NOT make adjustments while the planer is running. Make certain that the switch is in the off position and that the machine is disconnected from the power source.

⚠ CAUTION

Planer knives are extremely sharp. Please use extra caution when your hands are near the blades.

1. Having the table parallel to the cutterhead is essential for planing stock perfectly square. Check this by placing the gauge block that you have constructed under the left end of the cutterhead.
2. Turn the handwheel clockwise to raise the table so that the block barely touches the left side of the body of the cutterhead. **NOTE:** Make sure that the block is actually touching the body of the cutterhead and not the knives. **SEE FIG 7**.
3. Slide the block to the right taking note of any gaps between the top of the block and the bottom of the cutterhead body. Measure any of these gaps with a feeler gauge.
4. When moving the block from left to right, if the block wedges tightly between the cutterhead and the table, repeat steps 2 and 3, but start from the right side of the cutterhead body and slide to the block to the left.

Fig. 7



5. Referring back to your measurements with the feeler gauge, if the gap difference from one side to the other is .004 or less, no adjustment will be necessary.

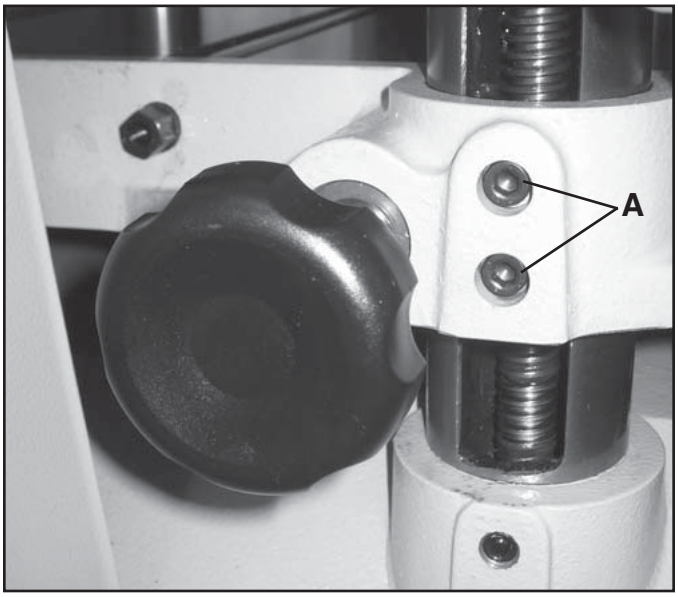
   If the gap is greater than .004, but less than .016, proceed to step 6.

   If the gap is greater than .016, refer to the ADJUSTING CHAIN DRIVE section in the ADJUSTMENTS section of the manual.

6. For gap differences between .005 and .016, determine which side of the table needs to be raised to fix the gap.

7. Locate the two cap screws (A) in the table casting for each of the columns. **SEE FIG 8**.

Fig. 8



8. Loosen both sets of screws for each column on the side that needs adjusted.

9. Pull up or push down on the table in the direction that it needs to move, hold in position and retighten the screws.

10. Repeat these steps until the variance is .004 or less.

CHAIN ADJUSTMENTS

The chain drive in your planer transfers movement from the hand wheel driven column to the three other support columns. The chain drive may require an adjustment to remove slack as the chain stretches over time, or as part of table leveling procedures.

⚠WARNING

MAKE CERTAIN THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.

CHAIN TENSION

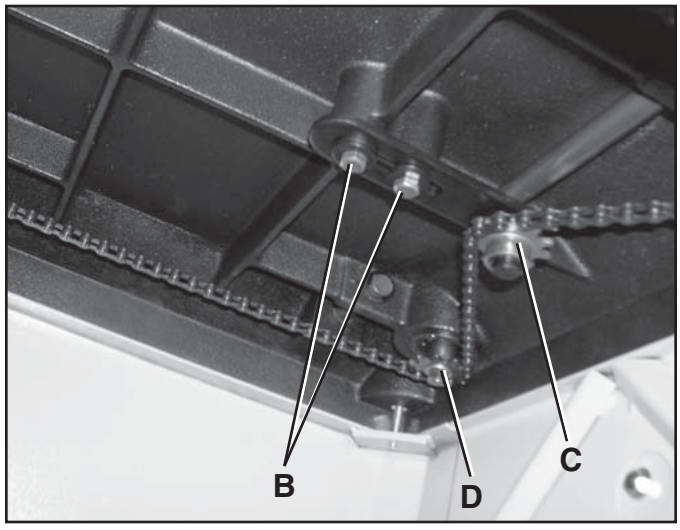
To adjust Chain Tension:

1. Remove the access panel (A) on the stand. **SEE FIG 8A.**

Fig. 8A

2. Loosen the two hex head bolts (B) that fasten the idler sprocket (C) to the base and move the idler sprocket until excess slack in the chain has been eliminated. **SEE FIG 8B.**

Fig. 8B



3. Retighten the two hex head bolts.

4. Replace access panel.

ADJUSTING CHAIN DRIVE

Notice: The following steps should only be done AFTER you have gone through the TABLE PARALELLISM ADJUSTMENT section of this manual and the measurements you attained from that section are greater than .016

⚠ WARNING

MAKE CERTAIN THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.

1. Remove the panel (A) to gain access to the chain drive assembly. **SEE FIG 8A, page 19.**

2. Loosen two hex head bolts (B) that fasten the idler sprocket (C) to the base until you can turn each corner sprocket (D) independently. One of the corner sprockets is shown in Fig 8B. **SEE FIG 8B, page 19.**

Notice: If the chain drive is loosened too much, it will fall off all of the sprockets. Replacing a chain that has come off the sprockets is a very tedious process. Make sure to loosen the idler pulley just enough to allow you to be able to turn the corner sprockets.

3. Each tooth on a corner sprocket represents .016 of vertical movement as it turns.

4. Whichever end of the table is too high, turn the sprockets at that end of the table clockwise to lower the table. For example if the back end of the table is too high, the back two sprockets would need to be rotated clockwise to lower the back side of the table. If the right end of the table is too high, the right two sprockets would be rotated clockwise to lower the right side, etc.

Notice: Make certain, as you turn the sprockets, to keep an accurate tooth count to ensure that the table is lowered equally on a specific side.

5. Recheck Table Parallelism using your gauge block. Once the tolerance is less than .016, replace access cover and refer back to the TABLE PARALELLISM ADJUSTMENT section in the ADJUSTMENT section of this manual.

KNIFE INSPECTION

⚠ CAUTION

Planer knives are extremely sharp. Please use extra caution when your hands are near the blades.

The Planer knives are set at the factory using jack screws. Springs are also included with your planer which may be used instead of the jack screws, depending on your preference. These springs are installed beneath the knives.

You can leave the springs in place as it will not affect the adjustments if they are not removed.

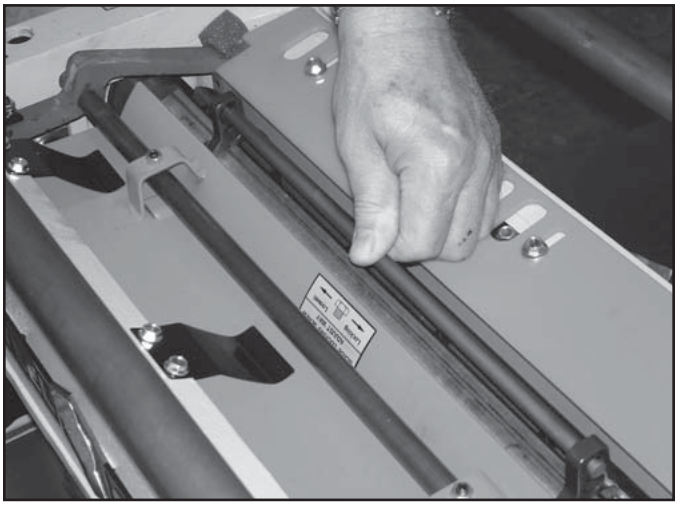
If you prefer to use the spring adjustment method, you will need to remove each knife, remove the jack screws, leave the two springs under each knife and replace the knife. Follow the steps below if using the spring adjustment method.

⚠ WARNING

MAKE CERTAIN THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.

1. Remove the dust port and upper cover and cutterhead guard to expose the top of the cutterhead. **SEE FIG 9.**

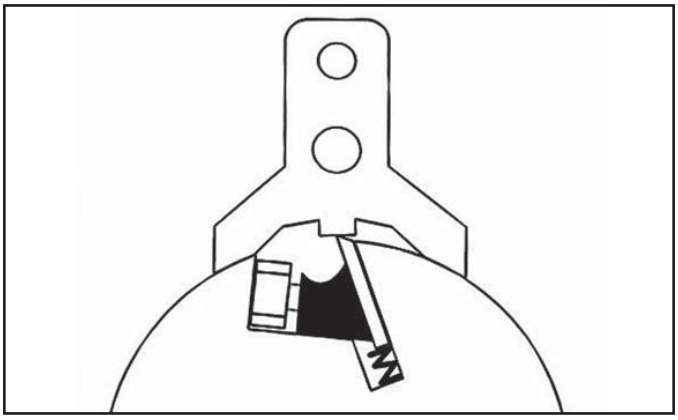
Fig. 9



2. Remove the belt guard. Turn the cutterhead (using the pulley) until the first knife is top dead center.

3. Using the knife setting gauge, check the knife height. The jig should set with both feet on the cutterhead. **SEE FIG 10, page 21**. If the knife is properly adjusted, the contact point at the center of the gauge should just touch the tip of the knife. If the knife does not make contact, or if the knife is high enough to cause the legs of the gauge not to set on the cutterhead, the knives will need adjusted. Be sure to inspect all 4 knives in the same manner.

Fig. 10

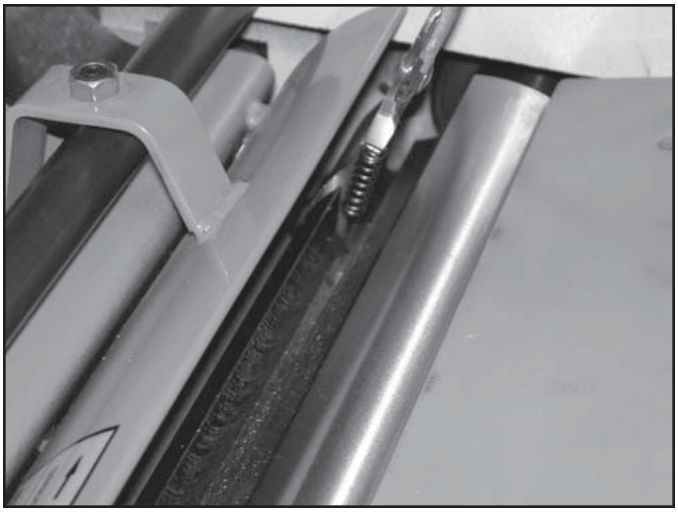


The planer knives will need to be adjusted periodically and ultimately will need to be removed to be sharpened. Adjustments should be as precise as possible with tolerances within .002 -.003. This will help prolong the sharpness of the knife edges. Improperly adjusted knives can cause an imbalance condition in the cutterhead and shorten bearing life, as well as produce substandard results.

4. Loosen the gib bolts by turning them clockwise until the knife is loose in the slot.
5. Carefully remove the knife.
6. Unscrew the jack screws completely from the threaded hole and remove.
7. Be sure that there is one spring in each of the two holes in the bottom of the knife slot. **SEE FIG 11**.

NOTICE: The springs **DO NOT** go into the threaded hole where the jack screws were installed.

Fig. 11

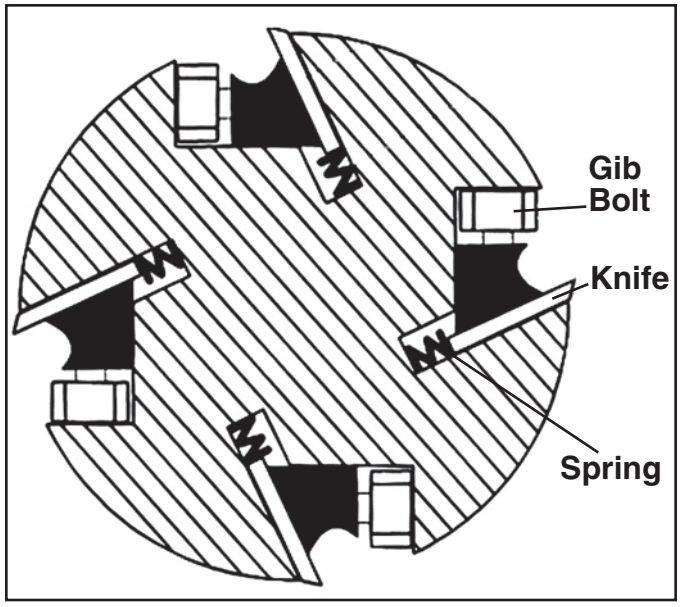


KNIFE ADJUSTMENT

The knives are locked in the cutterhead with wedge type gibs and gib bolts. Springs located under the knives assist in setting the knife height. Jack screws under the knives allow fine tuning to help out in the setting process.

1. **MAKE CERTAIN THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE**.
2. Remove the upper cover to expose the cutterhead.
3. Loosen the gib bolts until the knife is loose in the slot. The gib bolts turn clockwise to loosen and counterclockwise to tighten. **SEE FIG 12**.

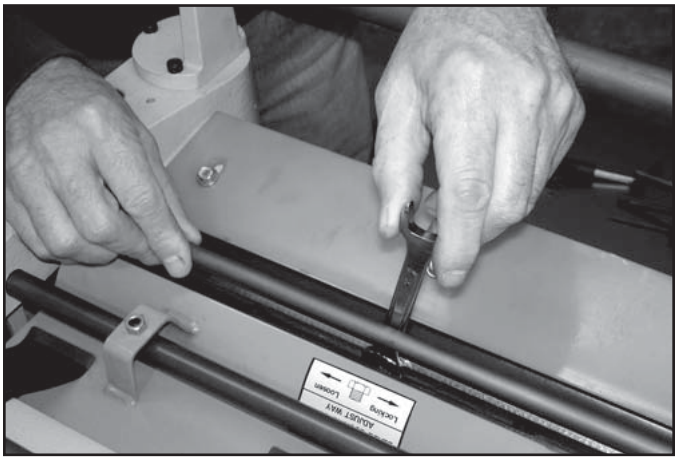
Fig. 12



4. Place the knife setting jig over the knife on the cutterhead as shown in Fig. 13, page 22. The feet of the jig should be securely planted on the cutterhead, making sure the gauge rod remains parallel to the cutterhead. **SEE FIG. 13 ON PAGE 22.**
5. Lower the jack screws as low as possible.
6. Maintain a steady pressure on the knife setting jig while retightening the gib bolts. The springs in the cutterhead will push up on the knife allowing for proper alignment of the knives.
7. Once gib bolts are tightened, raise jack screws until they just touch the bottom of the knife. You should feel resistance when the jack screw touches the bottom of the knife.

   NOTICE: When making adjustments to the planer knives, all four knives must be adjusted the same. **DO NOT** adjust one knife without adjusting the others as this can result in knife damage, poor performance and possible injury to the operator.

Fig. 13



CHIP BREAKER

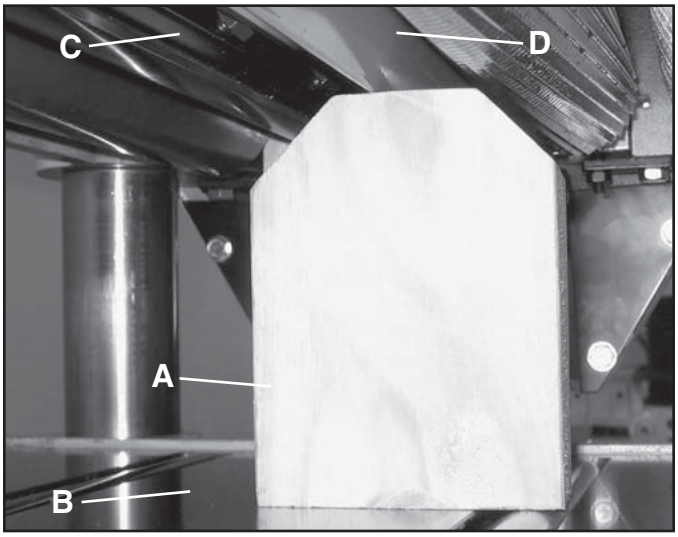
The chip breaker is located on the top side of the planer and it extends down around the front of the cutterhead. The purpose of the chip breaker is to prevent deep gouging, also known as tear-out, as the knives do their job. It works by breaking up the woodchips as they are being cut by the knives. The chip breaker also deflects and shoots out the woodchips away from the surface of the board and out the planer.

⚠WARNING

DO NOT make adjustments while the planer is running. Make certain that the switch is in the off position and that the machine is disconnected from the power source.

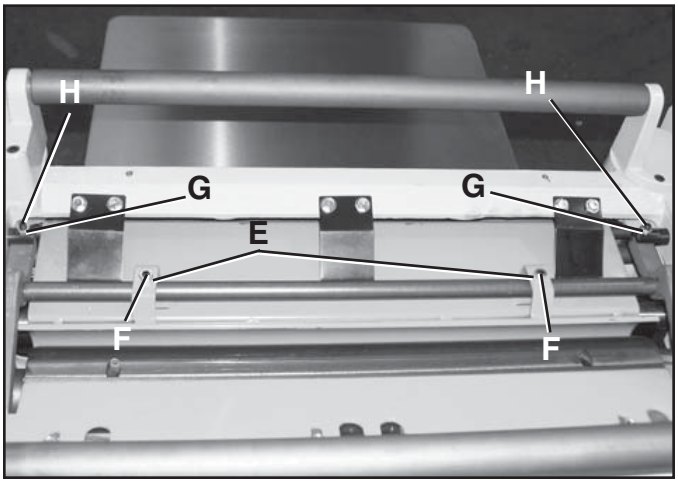
1. Remove the upper cover and dust port, and lower the table.
2. Make sure that the knives are properly adjusted.
3. Place the gauge block (A) on the table (B) directly under the cutterhead (C). **SEE FIG 16**.
4. Rotate the cutterhead until one of the knives are at its lowest point.

Fig. 16



5. Using a .040 feeler gauge between the gauge block and the cutterhead, raise the table until the knife just touches the feeler gauge.
6. Lock the table using the table lock knobs.
7. Remove your feeler gauge and slide the gauge block under one side of the chip breaker (D). The chip breaker should just touch the top of the gauge block.
8. Slide the gauge block to the opposite side of the chip breaker, checking it the same way.
9. If any adjustment is necessary, loosen the locknuts (E) and turn the setscrews (F). Stop turning when the chipbreaker just touches the top of the gauge block. **SEE FIG 17**.

Fig. 17



10. Retighten both locknuts and replace cover and dust hood.

PRESSURE BAR

The pressure bar, like the chipbreaker, controls lumber as it passes under the cutterhead. The pressure bar helps to keep the lumber from lifting after it has been planed. Incorrect positioning of the pressure bar can result in a number of undesirable results such as snipe or chatter marks. Setting the pressure bar too low can also place excess load on the motor. To adjust the pressure bar:

⚠WARNING

MAKE CERTAIN THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.

1. Remove top cover and dust port.
2. Loosen both locknuts (G). **SEE FIG 17.**
3. Place Gauge block under the center of the pressure bar and adjust both of the setscrews (H) until the pressure bar just touches the tip of the block.
4. Once the bar is set, retighten both of the locknuts and replace top cover and dust port.

FEED ROLLER HEIGHT

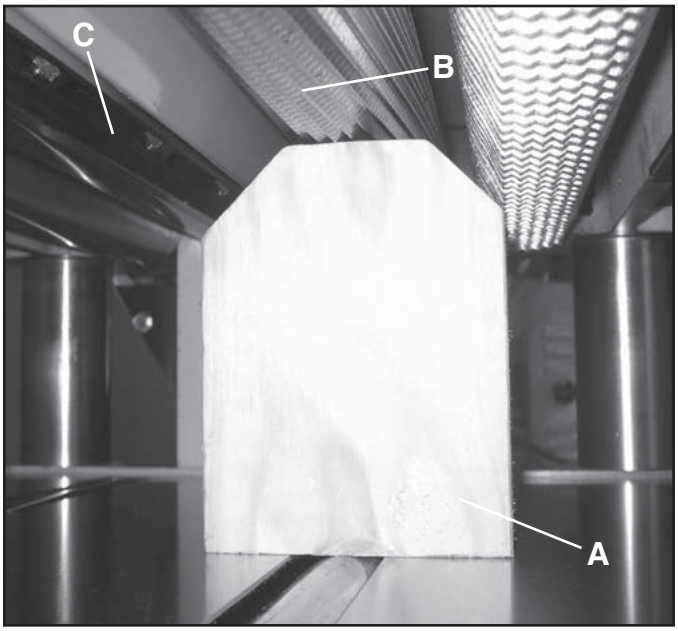
The infeed and outfeed rollers are responsible for moving the workpiece through the machine and pressing the workpiece flat against the main table.

⚠WARNING

MAKE CERTAIN THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE

1. Lower the table so the gauge block (A) fits under one side of the infeed roller (B).
2. Raise the table until the gauge block just barely touches one side of the infeed roller. **SEE FIG 18**.

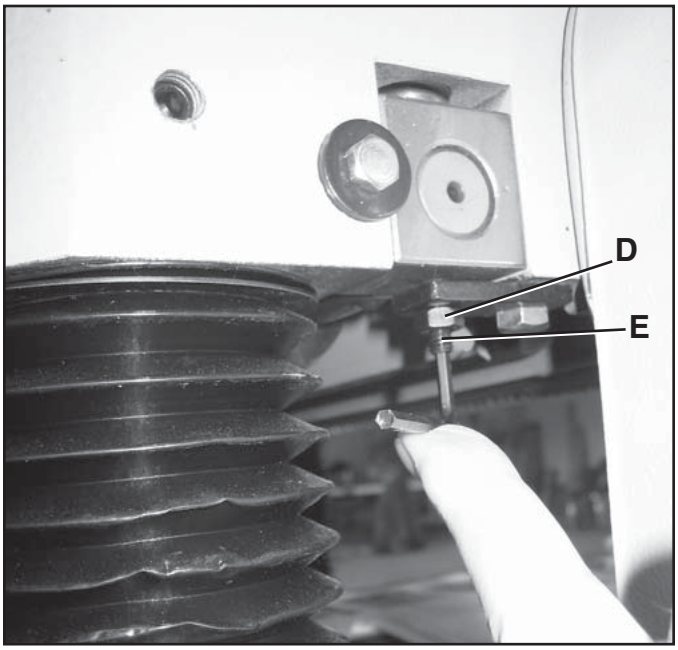
Fig. 18



3. Push the gauge block through so that it is under the edge of one of the knives.
4. Turn the cutterhead (C) by hand using the pulley until one of the knives are in its lowest position.
5. Using a feeler gauge, check the clearance between the top of the gauge block and the edge of the knife. Clearance should be .040.
6. Repeat steps 1-5 for the opposite side of the roller.
7. Repeat this same process for the outfeed roller. If any adjustment is necessary continue on to step 8.
8. Remove the gear box cover to access the roller adjustments on the drive chain side on the planer. One socket head cap screw holds the drive chain cover in place.

NOTE: There are two metal guard plates bolted to the backside of the gear box cover. It may be necessary to remove one of these guards in order to remove the gear box cover.

Fig. 19



9. Loosen the roller adjustment check nuts (D) and turn the roller height set screws (E) to change the height of the roller. **SEE FIG 19**.
10. When the roller is set in the correct position, retighten the check nuts from step 9.
11. Recheck roller height and repeat steps 8-10 if necessary.

FEED ROLLER PRESSURE

Infeed and outfeed roller pressure is an important aspect of any planer. When the workpiece is fed through the planer, the correct amount of pressure will help ensure that the board does not slip (too little pressure) or does not jam (too much pressure).

NOTICE: Excessive pressure may damage workpiece It's important to note that different lumber will require varying amounts of pressure, so you may have to experiment with different settings. While some rough cut lumber will go through the planer with little trouble at one pressure setting, other pieces may have some more difficulty.

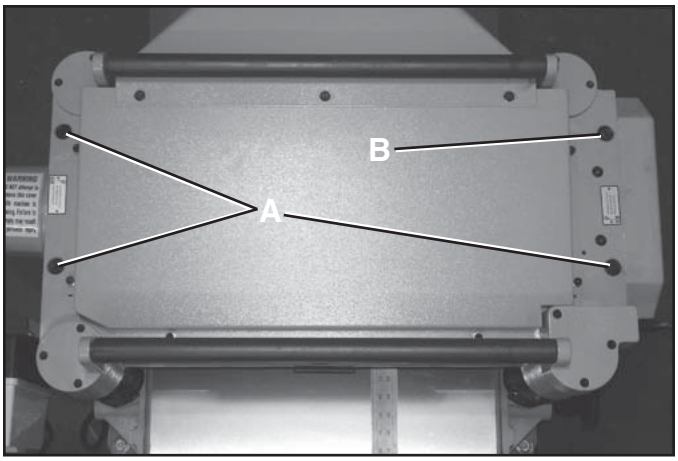
NOTICE: Adjusting the roller pressure does not affect height.

⚠WARNING

MAKE CERTAIN THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.

1. Before adjusting roller pressure, ensure that the knives and feed rollers are set correctly.
2. Unscrew the four large pressure set screws (A and B) on the top of the planer body. **SEE FIG 20**.

Fig. 20



3. Remove the springs that are in the holes left by the set screws and check for any dirt or grit, cleaning off any dirt and replace springs.
4. Screw the three regular pressure set screws (A) back in until they are flush with the top of the head casting.
5. Screw in the light pressure set screw (B) until it is about 1/4" above the head casting. The reason this screw is not tightened as much as the other three is that the feed chain helps apply the needed tension to this side of the outfeed roller.
6. Tightening the set screws down further will **INCREASE** roller pressure, while backing them off will **DECREASE** roller pressure.

BED ROLLERS

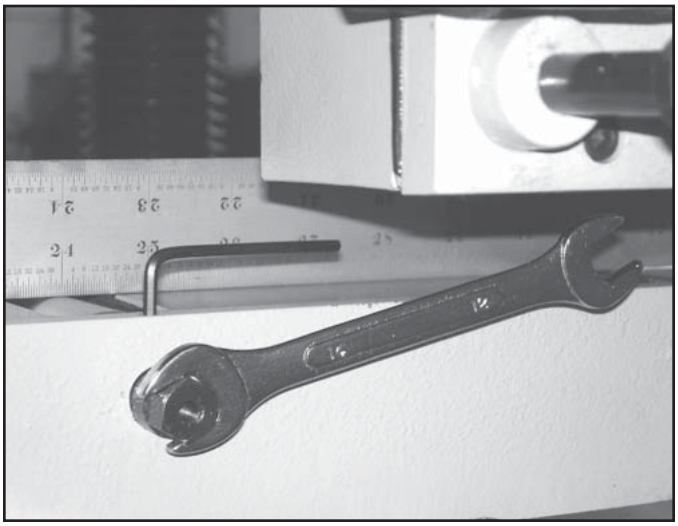
The bed rollers aid the movement of the workpiece through the planer. The height of these rollers will vary depending on the types of wood. For rough stock, the rollers should be set slightly higher to keep the lumber from dragging along the bed. For smooth lumber, the rollers should be set just above the surface of the table.

⚠ WARNING

MAKE CERTAIN THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE.

1. Lay a straight edge across both of the table rollers.
2. Using a feeler gauge, measure the clearance between the bottom of the straight edge and the table. Make sure to measure in several places.
3. If measurement is between .002 and .005, the clearance is acceptable. If you do not have a measurement of .002 to .005 go to step 4.
4. Loosen the set screws located on both sides of each roller.
5. Using a wrench, turn the eccentric shafts to adjust the roller height up or down as shown in **FIG 21**.

Fig. 21



6. Repeat steps 1-5 until clearance is .002 to .005.
7. Retighten all set screws.
8. Spin rollers by hand to ensure that they move freely.

CHIP DEFLECTOR

The chip deflector (A) is the plastic plate under the top cover that keeps woodchips from falling onto the outfeed roller. **SEE FIG. 22.**

⚠ WARNING

MAKE CERTAIN THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE

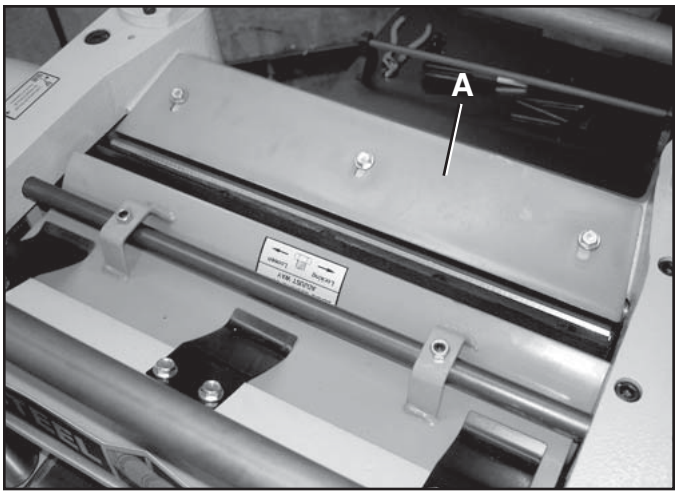
1. The beveled edge of the deflector should be about 1/8"-1/4" from the knife edge. Check this by carefully rotating the cutterhead by hand to gauge the distance between the chip deflector and the knives.

⚠ CAUTION

If the chip deflector is set too close to the knives, the rotating cutterhead may pull it in and destroy it.

2. If adjustment is necessary, loosen the three deflector mounting bolts.

Fig. 22



3. Make sure the beveled edge of the deflector faces the cutterhead.
4. Move the deflector until the edge is approximately 1/8" - 1/4" from the edge of the knives.
5. Push down on the deflector with a wooden stick and spin the cutterhead by hand to ensure that it does not contact the knives.

⚠ CAUTION

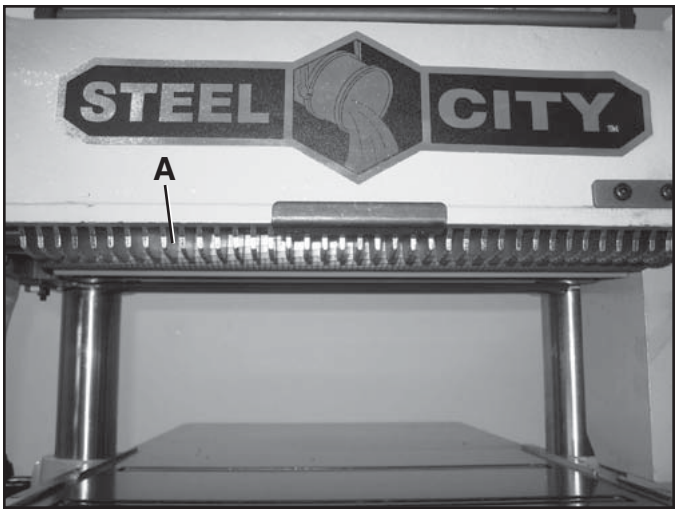
Planer knives are extremely sharp. Please use extra caution when your hands are near the blades.

6. Retighten the chip deflector mounting bolts and remount the upper cover and dust port to the planer.

ANTI- KICKBACK FINGERS

Anti-kickback fingers (A) are an added safety feature on this planer. They are suspended from a rod that hangs across the front of the cutterhead casting. These fingers should be inspected regularly, ensuring that they swing freely and easily. **SEE FIG 23**.

Fig. 23



⚠ WARNING

DO NOT apply any oil or other lubricant to the anti-kickback fingers as this can attract dust and restrict the free movement of the fingers. This could result in damage to the planer, the workpiece, or even serious injury to the operator or others in the work area. **DO NOT** attempt to use the planer if the anti-kickback fingers are not functioning properly.

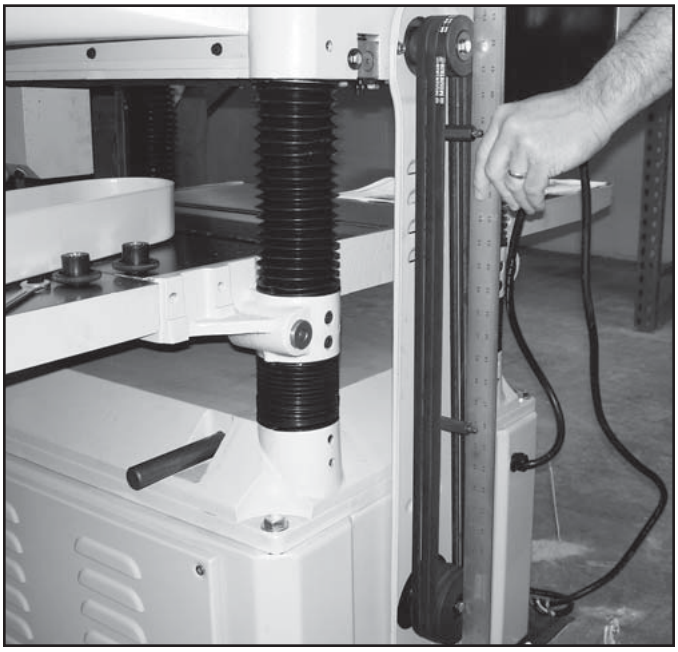
PULLEYS

⚠ WARNING

MAKE CERTAIN THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE

1. To inspect pulleys, place a steel ruler or other type of straight edge across the pulleys to check the alignment. If the ruler crosses them evenly, the pulleys are aligned correctly. **SEE FIG 24.**

Fig. 24



2. If pulleys are out of alignment, loosen the bolts that hold the motor to the motor mount bracket.
3. Adjust the motor position until the pulleys are aligned.
4. Retighten all bolts.

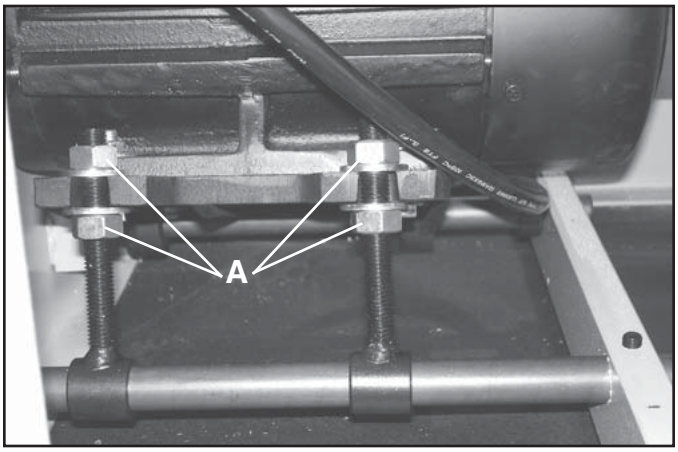
BELTS

⚠WARNING

MAKE CERTAIN THE MACHINE IS DISCONNECTED FROM THE POWER SOURCE

1. If the belt is too loose, remove the belt guard using the two threaded knobs.
2. To check belt tension, squeeze the Belts at their midpoint with moderate finger pressure. You should be able to deflect each belt no more than 3/4".
3. Remove the panel at the back of the machine stand to access the motor assembly.
4. The motor pivots on a platform suspended at one end by two threaded adjustment bolts. Adjust the locknuts (A) up or down the shafts until the desired belt deflection is achieved. **SEE FIG 25**.

Fig. 25



GEAR BOX

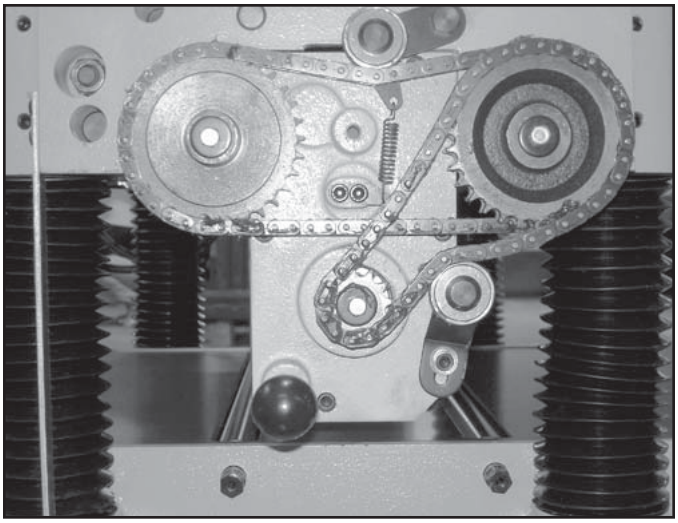
The gearbox is located just behind the handwheel on the right side of the planer. The gearbox transfers power from the belt driven cutterhead to the power feed rollers. It has a two speed transmission that is controlled by a lever on the right side of the planer. When it is engaged, the power feed rollers will move the workpiece through the planer at either 16 ft/ min or 20 ft/min. The center position on the lever is neutral.

1. To inspect gearbox, loosen the socket head cap screw on the gearbox cover.
2. Pull the cover off the roll pins that hold it in place

NOTE: There are two metal guard plates bolted to the backside of the gear box cover. It may be necessary to remove one of these guards in order to remove the gear box cover.

3. Inspect the bolts that hold the sprockets in place
4. Check the drive chains to make sure that the retaining clips are in place. **SEE FIG 26**.

Fig. 26



OPERATIONS

⚠ WARNING

This planer is a very powerful woodworking machine designed and built for professional use. Because of this, the machine should be operated with significant care and caution. Failure to do so could result in severe injury to the operator or others in the work area. Be sure to read this entire manual for all safety precautions before operating this machine.

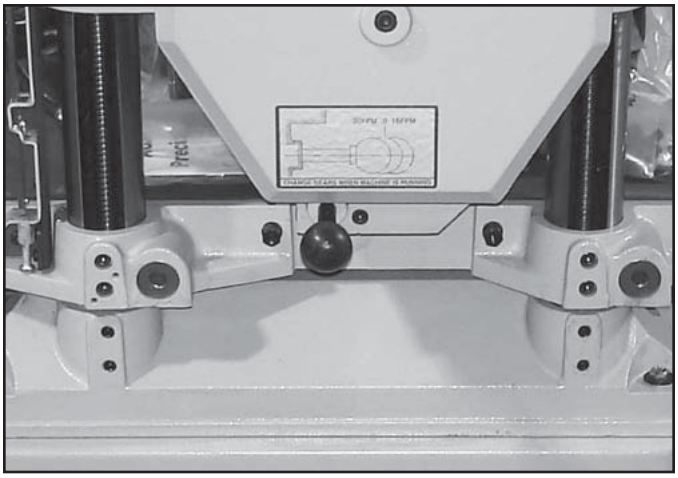
PLANER SUMMARY

1. Examine all lumber carefully for defects such as twisting, warping, knots, splits, crossgrain, and foreign objects such as nails, staples, etc before running it through the planer. If you are unsure about the quality of the wood, **DO NOT USE IT!!!**
2. Use the full width of the planer. Alternate between the left, right, and center when feeding lumber through the planer. Doing so will help extend the life of your blades.
3. Be sure to clean off all glue of joined boards before planing.
4. This planer is designed for natural wood only. **DO NOT** use any composites, laminates, particle board, plywood, or plastics in the planer.
5. **ALWAYS** plane with the grain of the wood. **NEVER** feed end cut or end grained lumber through the planer.
6. When making multiple passes through the planer on long stock, use the stock return rollers located on top of the machine to move the workpiece over to the infeed side of the table.
7. Wood that has a high moisture content (greater than 20%) or wood exposed to rain or snow will plane poorly and cause excessive wear to the knives, and accelerate rust and corrosion.
8. This manual does not cover every aspect of planing wood. You should research alternative publications for more specific requirements. This type of follow up will help provide with a better understanding of the planing process as well as alert you to several precautions to take that may or may not be listed in this manual.

POWER FEED

The power feed feature two different feed rates, 16 FPM (feet per minute) and 20 FPM. **WHILE THE MACHINE IS RUNNING**, moving the knob one direction produces the 16FPM setting while moving the other direction produces the 20FPM setting. There is also a central position for the knob, which is neutral. **SEE FIG 27.**

Fig. 27



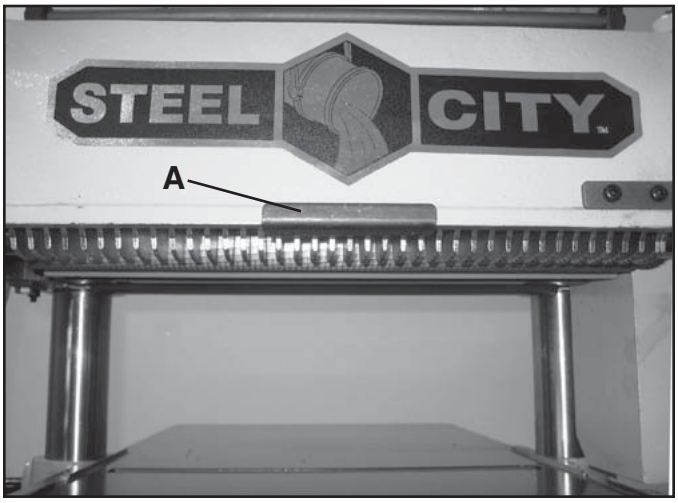
⚠ CAUTION

The feed rate should be set **ONLY** while planer is running, and **BEFORE** the workpiece is inserted into the planer. **DO NOT** attempt to change speeds after the cutting operation has started.

DEPTH LIMITER

This planer is equipped with a depth limiter (A), located at the bottom of the cutterhead casting, which controls the maximum depth of cut to 1/8". **SEE FIG 28.** With the limiter installed, you will not be able to cut more than 1/8" in a single pass. While it is possible to plane as much as 1/8" at a time, it is not recommended. Taking more shallow passes will improve the quality of your work as well as extend the life of your planer.

Fig. 28

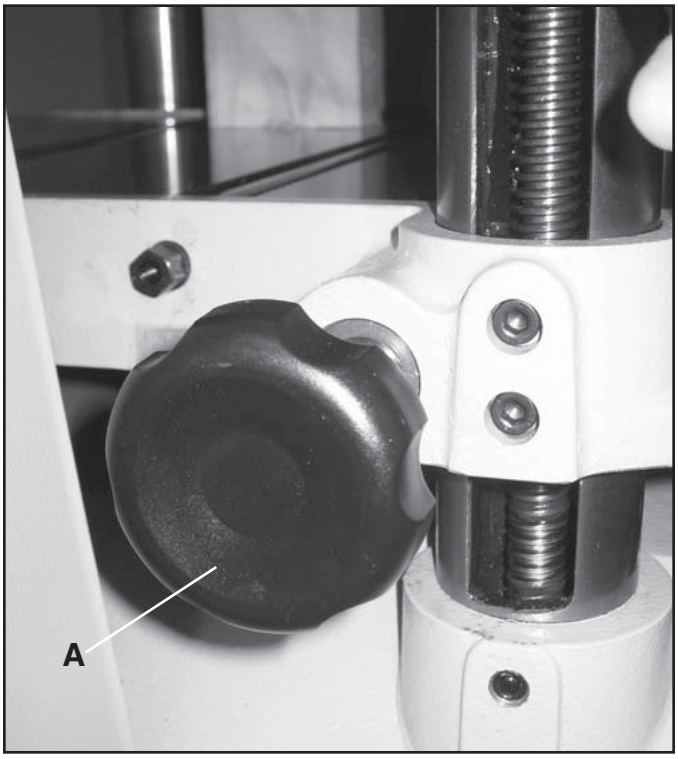


NOTICE: To avoid mechanical damage to the planer, do not remove the depth limiter.

TABLE LOCKS

Before attempting to adjust the table height, loosen the two black knobs (A) on the right side of the table. Once the table height is adjusted correctly, retighten the two knobs. **SEE FIG 29**.

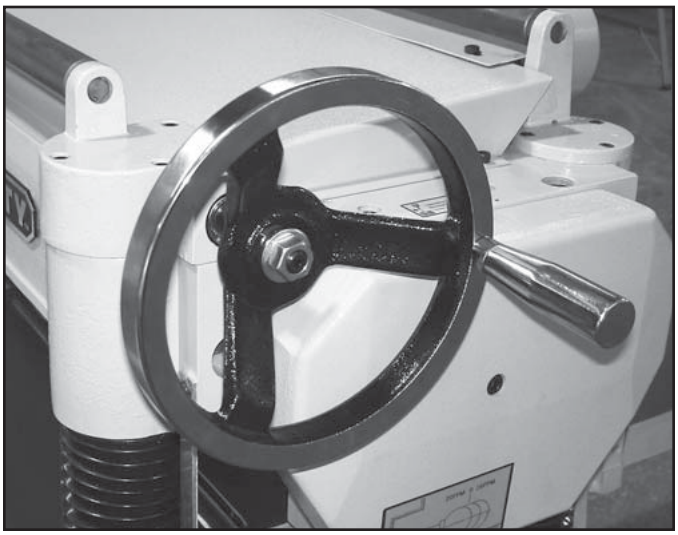
Fig. 29



HANDWHEEL

Turning the handwheel clockwise will raise the main table while turning it counterclockwise will lower the table. Crank the handwheel to raise or lower the table according to the desired workpiece thickness.

Fig. 30



TRIAL RUN

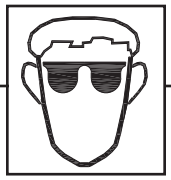
Once all the assembly is complete and the adjustments are complete, it's time for a test run.

1. Turn on the power supply
2. Press the start button. Keep your hand near the switch, ready to shut the machine down quickly in case anything does not sound right or if there appears to be a problem.
3. The planer should run smoothly with little to no vibration or rubbing noises. If any strange noise is noticed, shut down machine and recheck all adjustments.

⚠ WARNING

Do not attempt to make adjustments while the machine is running. Make certain the machine is disconnected from the power source and the machine has come to a complete stop.

⚠ WARNING



ALWAYS wear eye protection. Any machine can throw debris into the eyes during operations which could cause severe and permanent eye damage. Everyday eyeglasses are **NOT** safety glasses. **ALWAYS** wear Safety Goggles (that comply with ANSI standard Z87.1) when operating power tools.

MAINTENANCE

GENERAL

Make a habit of inspecting your planer each time you use it. Check the following conditions and repair or replace as necessary.

1. Worn Switch
2. Damaged cords and/or plugs
3. Damaged belts
4. Loose bolts
5. Any other condition that could hamper the safe operation of the machine

TABLE

The table and other non-painted surfaces on the planer should be protected against rust. Be sure to wipe the table clean after every use. This will help prevent moisture from the wood condensing on the bare metal table. It is also a good idea to use a paste wax on the bare metal surfaces. This will help keep moisture from the table and hence help keep it from rusting. Over time, some rust may still develop on the table. To get rid of the rust, use some WD-40 and a fine steel wool.

KNIVES

Make sure that your knives are sharp and properly adjusted before each knives. The sharpness and proper setting of the knives is essential to good planing. Refer back to the section on knives in this manual for detailed instructions .

LUBRICATION

BEARINGS

Your planer is equipped with factory sealed bearings requiring no lubrication during its lifetime. If the bearing should fail, the planer will produce a pronounced rumble that will get even louder under load. If it is allowed to get worse, overheating can occur and eventually the bearing can seize up, possibly causing damage to other parts of the machine.

WORM GEAR

The worm gear should be inspected monthly and lubricated with a white lithium grease as needed. Remove the worm gear box to inspect. See parts diagram for location.

CHAIN

The table height adjustment chain should be inspected regularly and lubricated as needed. Lubricate with a general purpose grease.

GEAR BOX

Gear box oil should be drained after the first 20 hours of operation. Replace with 80W-90 gear oil for use in room temperature shops and 50W gear oil for unheated winter shops. Inspect levels periodically and change yearly for occasional use, more frequently with heavy use.

To inspect oil level,

1. Using the short end of a hex wrench, dip the wrench inside the fill hole and rotate so the long end of the wrench is parallel to the table.
2. Remove the wrench. If the end of the hex wrench is coated with oil, then the gearbox level is okay.
3. If the end of the hex wrench is not coated with oil, then you need to add more oil.
4. Remove gear box cover. For information on removing gear box cover, refer to the gear box section in the ADJUSTMENTS section of this manual, page 26.
5. Replace fill plug when finished.

DRIVE CHAIN

The drive chain should be inspected and lubricated monthly using a general purpose grease.

FEED ROLLER

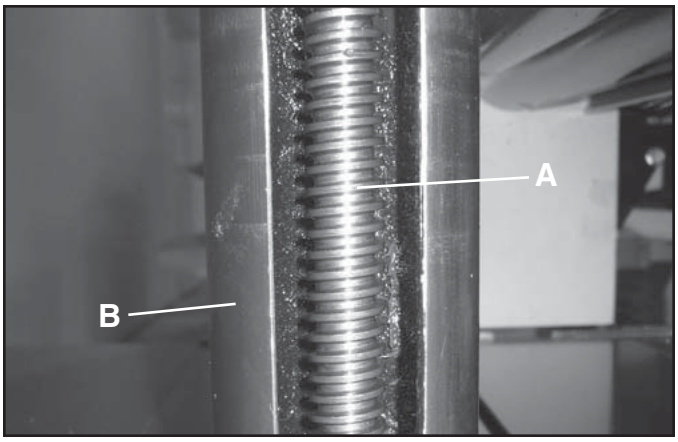
The infeed / outfeed pressure setscrews double as the lubrication ports for the rollers. Add 1-2 drops of light machine oil to all ports before every use. Daily lubrication of feed rollers is **CRUCIAL** to the operation of the planer. Lubricate before start up.

LEAD SCREWS AND COLUMNS

The four columns should be lubricated weekly with a light oil. The four lead screws (A) should be lubricated with general purpose grease once a month

The lead screws and columns (B) should be wiped of any grease and dust build up at least once a week. They should be lubricated with light machine oil. **SEE FIG 31.**

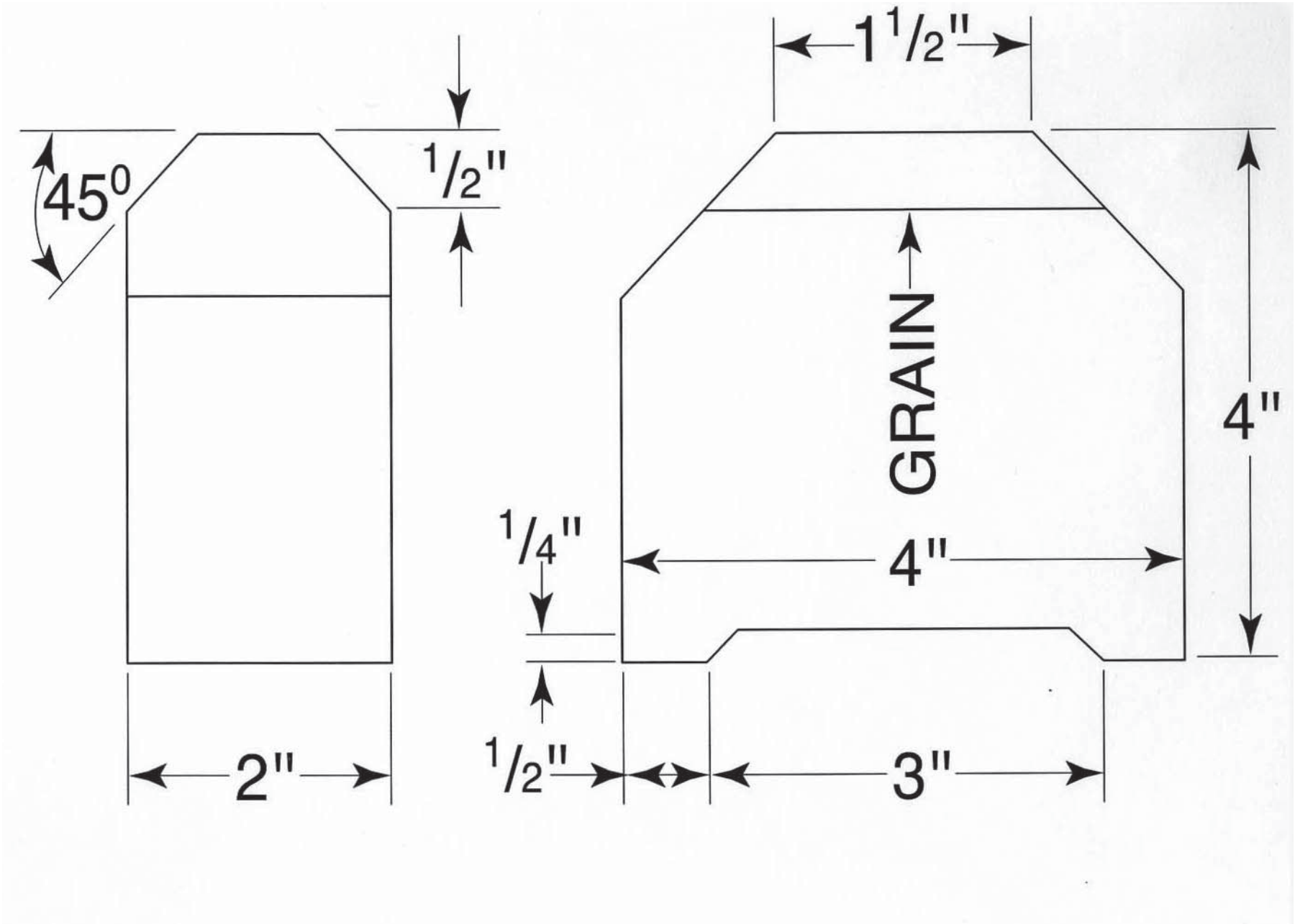
Fig. 31



TROUBLESHOOTING GUIDE

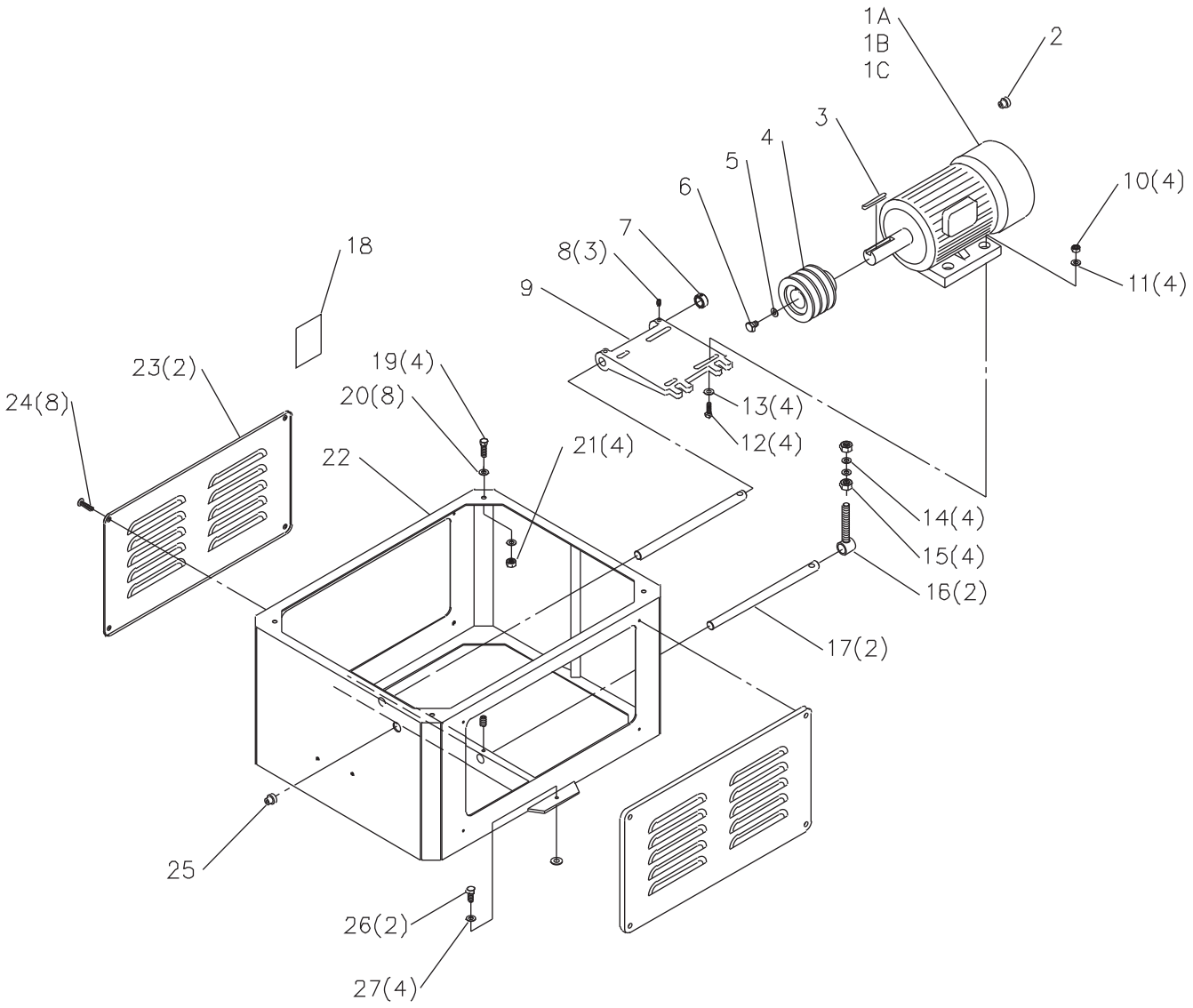
This section covers the most common processing problems encountered in planing and what to do about them. Do not make any adjustments until planer is unplugged and moving parts have come to a complete stop. See the section on Wood Characteristics for additional troubleshooting information.

PROBLEM	LIKELY CAUSE(S)	SOLUTION
Motor will not start.	1. Low voltage. 2. Open circuit in motor or loose connections.	1. Check power line for proper voltage. 2. Inspect all lead connections on motor for loose or open connections.
Motor will not start; fuses or circuit breakers blow.	1. Short circuit in line cord or plug. 2. Short circuit in motor or loose connections. 3. Incorrect fuses or circuit breakers in power line.	1. Inspect cord or plug for damaged insulation and shorted wires. 2. Inspect all connections on motor for loose or shorted terminals or worn insulation. 3. Install correct fuses or circuit breakers.
Motor overheats.	1. Motor overloaded. 2. Air circulation through the motor restricted.	1. Reduce load on motor. 2. Clean out motor to provide normal air circulation.
Motor stalls (resulting in blown fuses or tripped circuit).	1. Short circuit in motor or loose connections. 2. Low voltage. 3. Incorrect fuses or circuit breakers in power line. 4. Motor overloaded.	1. Inspect connections on motor for loose or shorted terminals or worn insulation. 2. Correct the low voltage conditions. 3. Install correct fuses or circuit breakers. 4. Reduce load on motor.
Machine slows when operating.	1. Feed rate too fast. 2. Depth of cut too great.	1. Change speed. 2. Reduce depth of cut.
Loud, repetitious noise coming from machine.	1. Pulley setscrews or keys are missing or loose. 2. Motor fan is hitting the cover. 3. V-belt is defective.	1. Inspect keys and setscrews. Replace or tighten if necessary. 2. Tighten fan or shim cover. 3. Replace V-belt.
Machine is loud when cutting. Overheats or bogs down in the cut.	1. Excessive depth of cut. 2. Knives are dull.	1. Decrease depth of cut. 2. Sharpen knives.
Infeed roller marks are left on the workpiece.	Depth of cut too shallow.	Increase depth of cut.
Outfeed roller marks are left on right side of workpiece.	Too much spring tension on feed roller.	Refer to Feed Roller Pressure section for adjustment.
Cannot control snipe.	Long or heavy board sags as it enters and exits.	Lift up on unsupported end of board as it enters and exits cutterhead.
Machine howls on startup.	Chip deflector too close to the cutterhead.	Move chip deflector back 1/8” to 1/4” from the cutterhead.
Table moves down while cutting.	1. Knives dull. 2. Table locking knobs are loose.	1. Replace knives. 2. Tighten table locking knobs.


45⁰
1/2"
2"
1 1/2"
GRAIN
4"
1/4"
4"
1/2"
3"

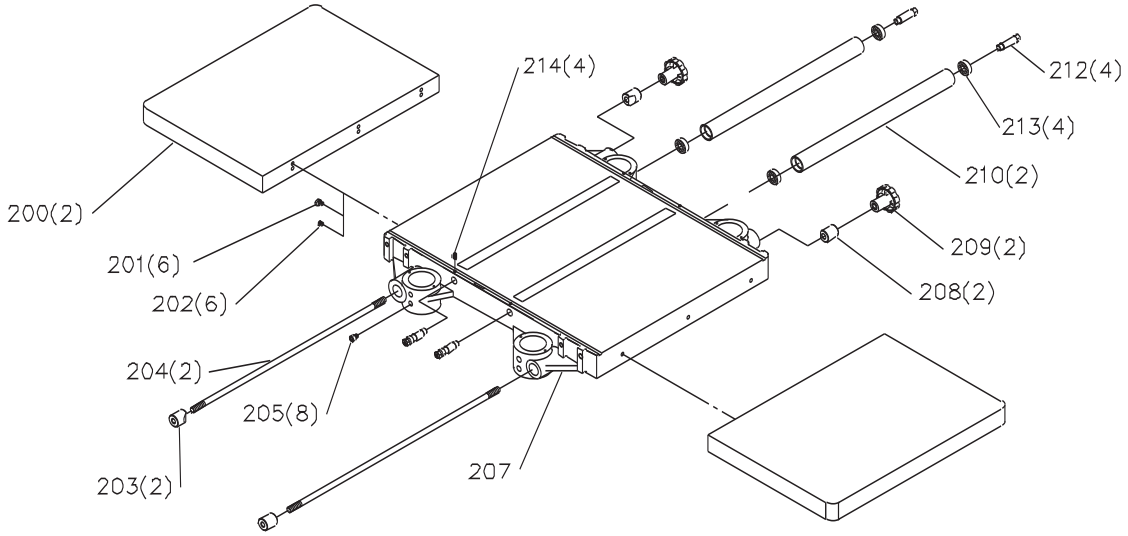
◆ NOTES ◆

PARTS



KEY NO.	PART NO.	DESCRIPTION	QTY.
1A	OR70406	MOTOR (5HP,220-240 V, 1PH)	1
1B	OR70355	MOTOR SPEC PLATE	1
1C	OR94269	CAPACITOR	1
2	OR94045	STRAIN RELIEF	1
3	OR90219	5mm x 5mm x 30mm KEY	1
4	OR71811	MOTOR PULLEY	1
5	OR9031 1	M8 FLA T WASHER	1
6	OR93917	M8 x 20mm HEX HEAD SCREW	1
7	OR71812	SPACER	1
8	OR94270	M8 x 12mm HEX SOC HD SET SCREW	3
9	OR71813	MOTOR MOUNTING PLATE	1
10	OR91501	M8 HEX NUT	4
11	OR9031 1	M8 FLA T WASHER	4
12	OR93891	M8 x 40mm HEX HEAD SCREW	4
13	OR91499	M8 FLA T WASHER	4

KEY NO.	PART NO.	DESCRIPTION	QTY.
14	OR94007	13mm x 28mm x 3mm FLATWASHER	4
15	OR90280	M12 HEX NUT	4
16	OR71814	MOTOR ADJUSTMENT SHAFT ASSY	2
17	OR71815	SUPPOR T SHAFT	2
18	OR70310	SPEC. PLATE	1
19	OR94271	HEX SCREW	4
20	OR94007	13mm x 28mm x 3mm FLAT WASHER	8
21	OR90280	M12 HEX NUT	4
22	OR71816	MOTOR BASE	1
23	OR71817	COVER	2
24	OR90306	M6 x 20mm PAN HEAD SCREW	8
25	OR94045	STRAIN RELIEF	1
26	OR90308	M8 x 30mm HEX HEAD SCREW	2
27	*	Start Capacitor 600MFD, 125 VAC	1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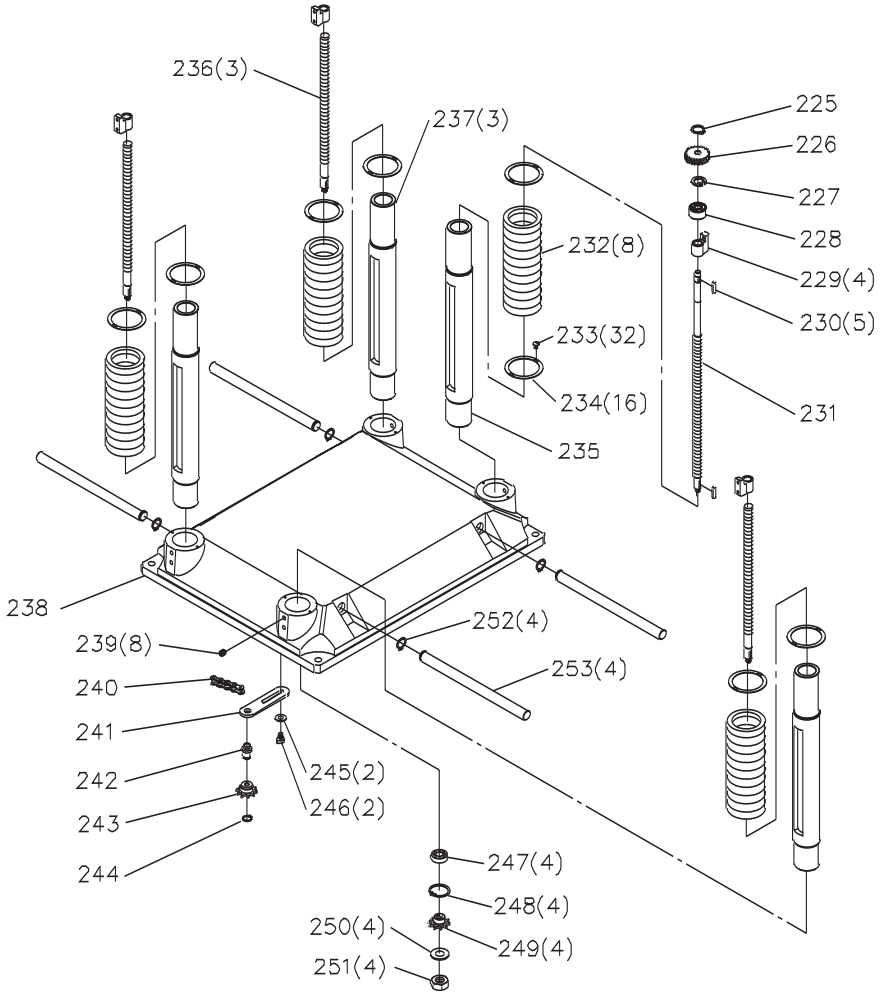
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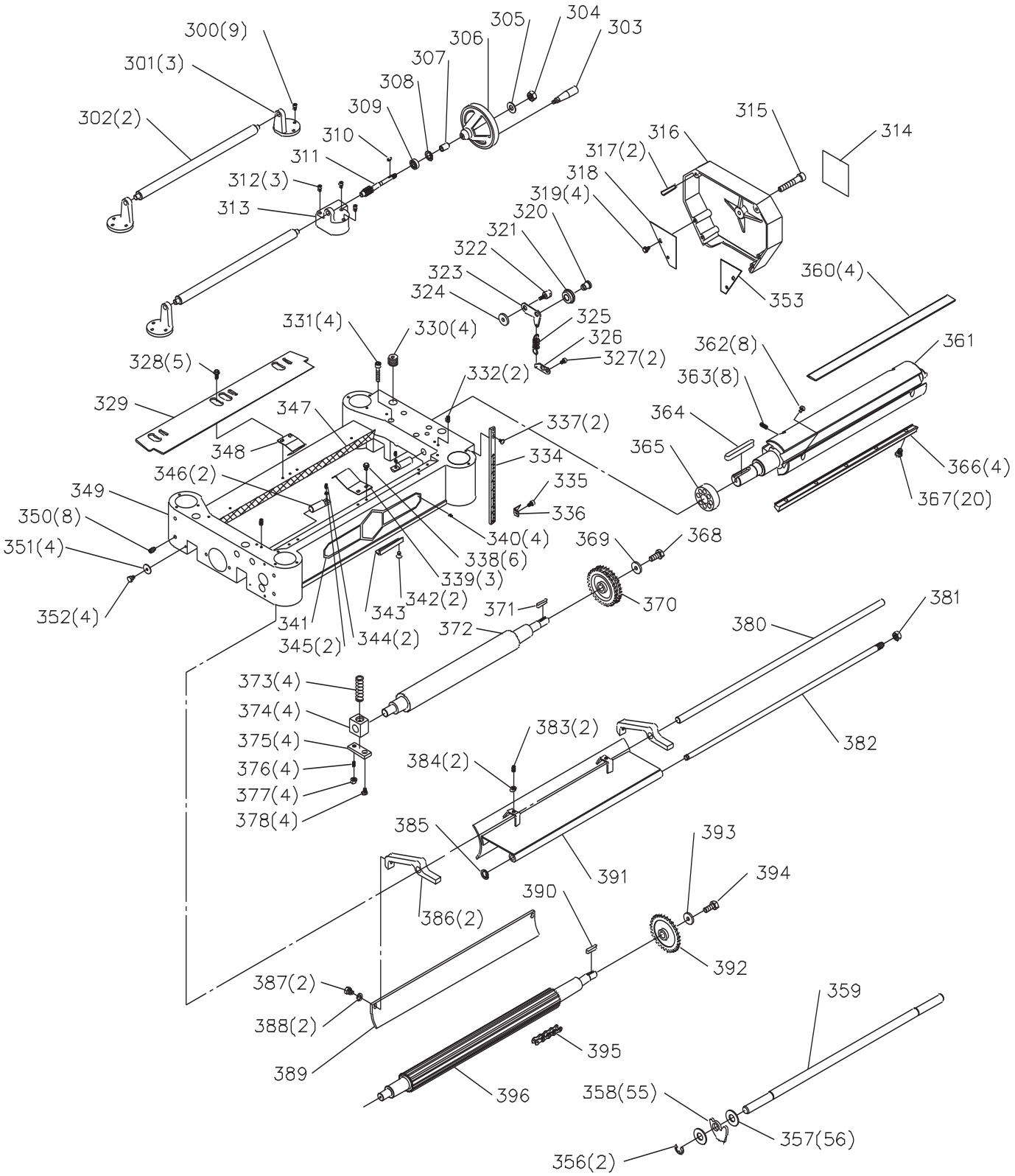
KEY NO.	PART NO.	DESCRIPTION	QTY.
200	OR71818	EXTENSION WING	2
201	OR91752	M8 x 25mm HEX HEAD SCREW	6
202	OR91821	M8 x 20mm SOC HD SET SCR	6
203	OR70949	COLUMN LOCK NUT	2
204	OR71819	COLUMN LOCK SHAFT	2
205	OR94272	M8 x 16mm SOC HD CAP SCREW	8
207	OR71820	BED CASTING	1
208	OR70946	COLUMN LOCK BUSHING	2
209	OR94015	KNOB	2
210	OR71821	BED ROLLER	2
212	OR71822	ECCENTRIC SHAFT	4
213	OR94055	BALL BEARING (6201Z)	4
214	OR90306	M6 x 12mm SOC HD SET SCREW	4
225	OR94041	RETAINING RING	1
226	OR71823	WORM	1
227	OR94018	RETAINING RING	1
228	OR71824	BUSHING	1
229	OR71825	COLUMN LOCK NUT	4
230	OR94019	4mm x 4mm x 10mm KEY	5
231	OR71826	ELEVATING SCREW	1
232	OR71827	DUST SLEEVE	8

KEY NO.	PART NO.	DESCRIPTION	QTY.
233	OR94273	M5 x 10mm PAN HEAD SELF- TAPPING SCREW	32
234	OR71828	MOUNTING RING	16
235	OR71829	MAIN COLUMN	1
236	OR71830	COLUMN SHAFT	3
237	OR71831	COLUMN	3
238	OR71832	BASE	1
239	OR93524	M10 x 12mm SOC HD SET SCREW	8
240	OR94274	CHAIN	1
241	OR70958	CHAIN TENSIONER BRACKET	1
242	OR70957	SPROCKET SHAFT	1
243	OR71833	SPROCKET	1
244	OR94024	RETAINING RING	1
245	OR90311	M8 FLAT WASHER	2
246	OR91752	M8 x 25mm HEX HEAD SCREW	2
247	OR94021	BALL BEARING (6202ZZ)	4
248	OR94022	RETAINING RING	4
249	OR71834	SPROCKET	4
250	OR90230	M10 FLAT WASHER	4
251	OR90228	M10 HEX NUT	4
252	OR94275	E - RING	4
253	OR71835	SHAFT	4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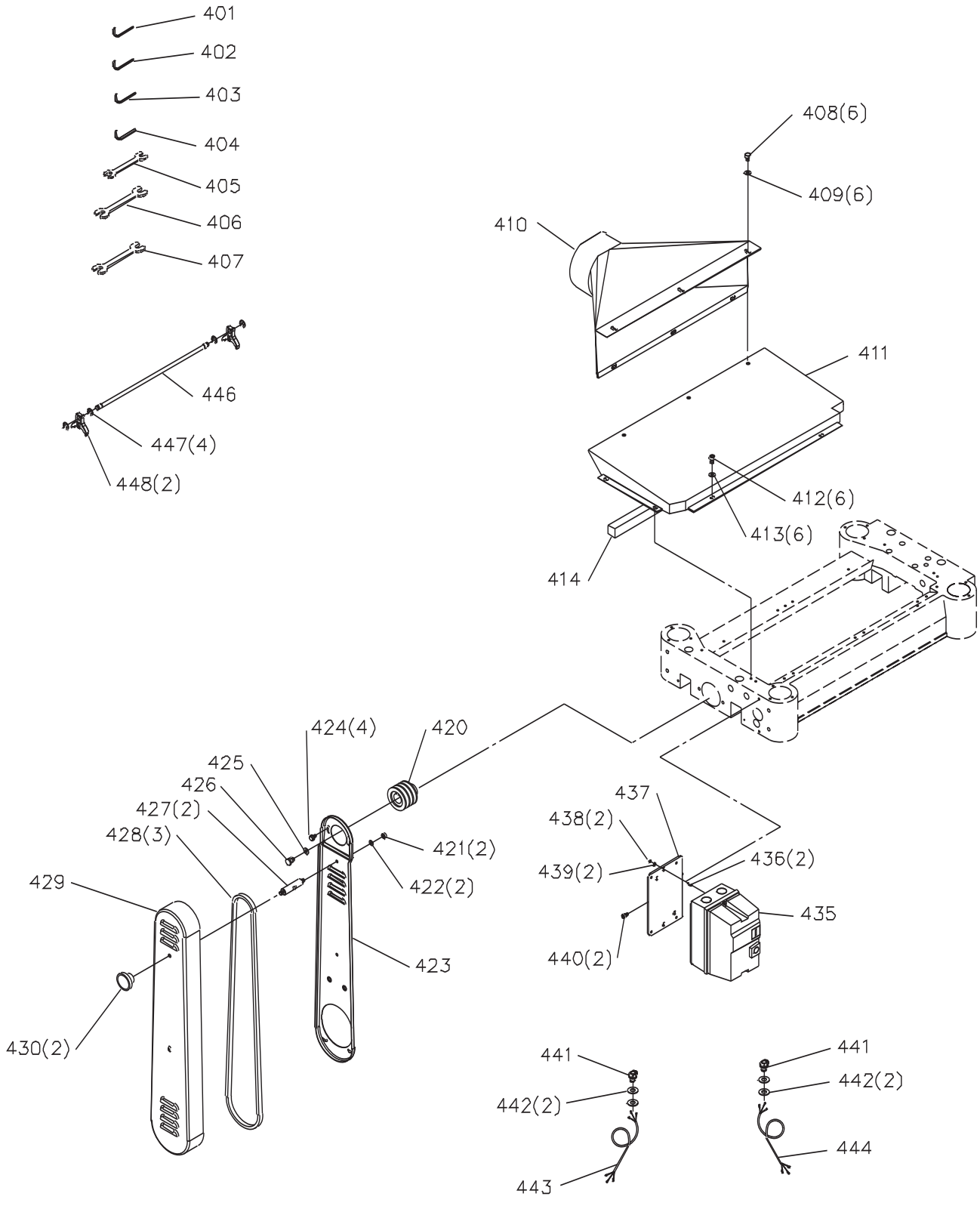
KEY NO.	PART NO.	DESCRIPTION	QTY.
300	OR93899	M6 x 16mm SOC HEAD CAP SCREW	9
301	OR71836	ROLLER BRACKET	3
302	OR71837	ROLLER	2
303	OR70965	HANDLE	1
304	OR90280	M12 HEX NUT	1
305	OR94007	13mm x 28mm x 3mm FLAT WASHER	1
306	OR71838	HAND WHEEL	1
307	OR71839	SPACER	1
308	OR94276	RETAINING RING	1
309	OR94055	BALL BEARING (6201Z)	1
310	OR94019	4mm x 4mm x 10mm KEY	1
311	OR71840	ELEVATING WORM SHAFT	1
312	OR94277	M6 x 50mm SOC HD CAP SCREW	3
313	OR71841	ELEVATING SCREW GEARBOX	1
314	OR71001	GEAR BOX OPERATION LABEL	1
315	OR92923	M8 x 40mm SOC HEAD CAP SCREW	1
316	OR71842	SIDE COVER	1
317	OR94028	SPRING PIN	2
318	OR71843	SIDE COVER GUARD	1
319	OR94029	M6 x 12mm HEX HEAD SERRATED SCREW	4
320	OR70974	CHAIN TENSIONER SHAFT	1
321	OR70973	CHAIN TENSIONER	1
322	OR70975	SHAFT	1
323	OR70976	BRACKET	1
324	OR90311	M8 FLAT WASHER	1
325	OR94031	SPRING	1
326	OR70978	SPRING HOOK PLATE	1
327	OR94032	M6 x 10mm SOC HD CAP SCREW	2
328	OR94278	M6 x 16mm HEX HEAD SERRATED SCREW	5
329	OR71845	CHIP DEFLECTOR	1
330	OR94030	SCREW	4
331	OR90249	M8 x 50mm SOC HD CAP SCREW	4
332	OR93951	M6 x 16mm SOC HD SET SCREW	2
333	OR71846	SCALE ASSY CONST. OF REF 334 TO 337	1
334	OR71847	SCALE	1
335	OR94279	M5 x 10mm SOC HD CAP SCREW	1
336	OR71848	POINTER	1
337	OR90320	M6 x 12mm PAN HEAD SCREW	2
338	OR94029	M6 x 12mm HEX HEAD SERRATED SCREW	6
339	OR70982	SPRING PLATE	3
340	OR93823	RIVET	4
341	OR70484	NAME PLATE	1
342	OR90507	M5 x 8mm PAN HEAD SCREW	2
343	OR70983	LIMIT PLATE	1
344	OR94280	M6 x 20mm HEX SOC HD SET SCREW	2
345	OR90235	M6 HEX NUT	2
346	OR71848	ADJUSTING SHAFT	2
347	OR71844	CHIP GASKET	1
348	OR71849	SPRING PLATE	1
349	OR71850	CUTTERHEAD CASTING	1
350	OR93524	M10 x 12mm SOC HD SET SCREW	8
351	OR91499	M8 FLAT WASHER	4
352	OR90333	M6 x 12mm HEX HEAD SCREW	4
353	OR71851	SIDE COVER GUARD	1
356	OR94044	E-RING	2
357	OR70955	SPACER	56
358	OR70996	ANTI-KICK BACK FINGER	55
359	OR71852	ANTI-KICKBACK SHAFT	1
360	OR71853	KNIFE	4
361	OR71854	CUTTERHEAD	1
362	OR90863	M5 x 12mm PAN HEAD SCREW	8
363	OR94056	SPRING	8
364	OR94035	8mm x 8mm x 36mm KEY	1
365	OR93522	BALL BEARING (6206-2NSE)	1
366	OR71855	KNIFE LOCKING BAR	4
367	OR94033	HEX SCREW	20
368	OR94038	M6 x 16mm HEX HEAD SCREW	1
369	OR94052	6.2mm x 20mm x 3mm FLAT WASHER	1
370	OR70985	OUTFEED ROLLER SPROCKET	1
371	OR94037	5mm x 5mm x 22mm KEY	1
372	OR71856	OUTFEED ROLLER	1
373	OR94035	SPRING	4
374	OR70987	BUSHING	4
375	OR70988	RETAINER PLATE	4
376	OR93951	M6 x 16mm SOC HD SET SCREW	4
377	OR90235	M6 HEX NUT	4
378	OR94281	M8 x 18mm HEX HEAD SCREW	4
380	OR71857	SUPPORT SHAFT	1
381	OR90280	M12 HEX NUT	1
382	OR71858	CHIP BREAKER SHAFT	1
383	OR90306	M6 x 12mm SOC HD SET SCREW	2
384	OR90235	M6 HEX NUT	2
385	OR94041	RETAINING RING	1
386	OR71859	PRESSURE BAR MOUNT	2
387	OR93917	M8 x 20mm HEX HEAD SCREW	2
388	OR91663	M8 LOCK WASHER	2
389	OR71860	PRESSURE BAR	1
390	OR94037	5mm x 5mm x 22mm KEY	1
391	OR71861	CHIP BREAKER	1
392	OR70992	INFEED ROLLER SPROCKET	1
393	OR94052	6.2mm x 20mm x 3mm FLAT WASHER	1
394	OR94038	M6 x 16mm HEX HEAD SCREW	1
395	OR94282	CHAIN	1
396	OR71862	INFEED ROLLER	1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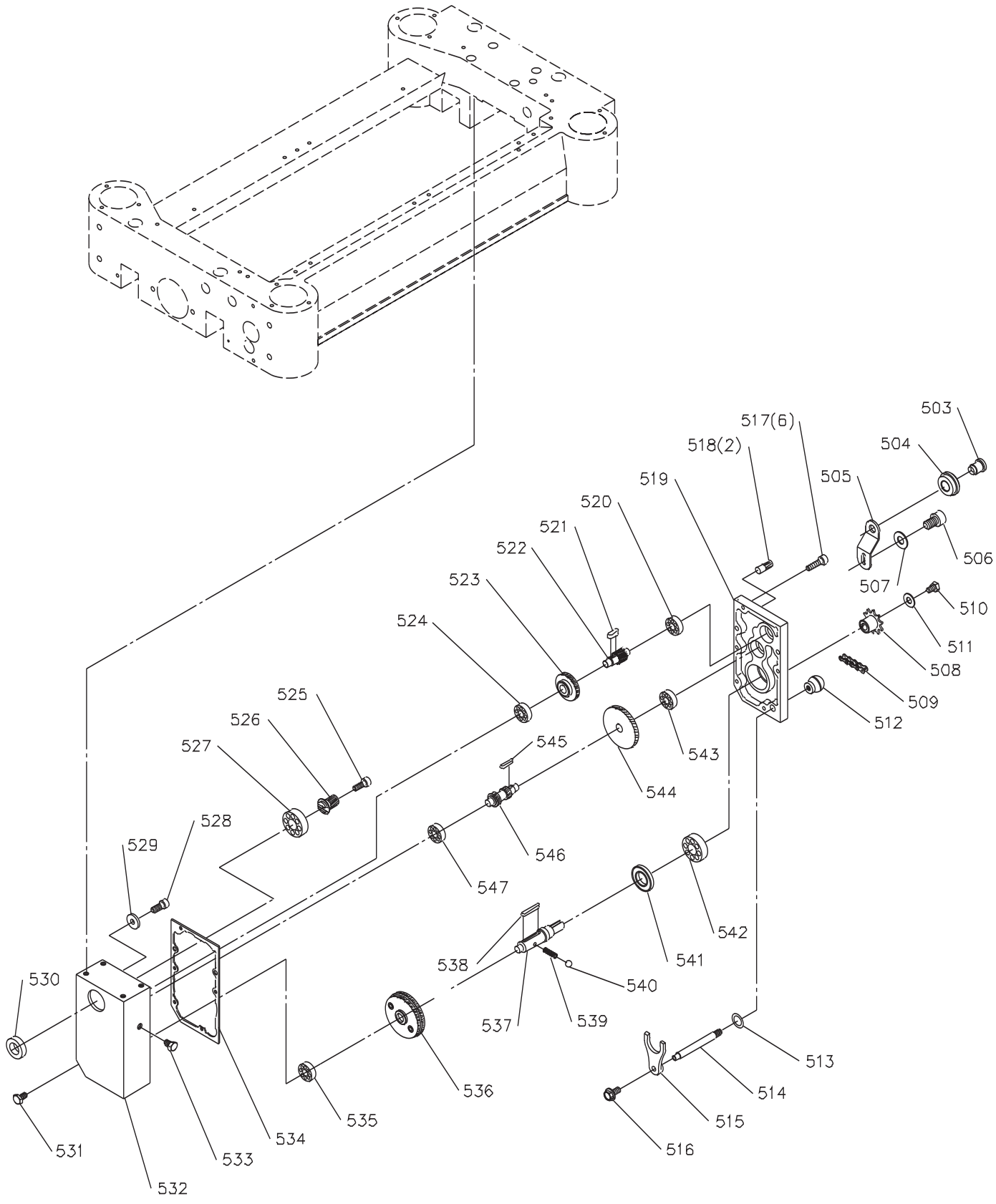
KEY NO.	PART NO.	DESCRIPTION	QTY.
401	OR90290	3MM WRENCH	1
402	OR90291	4MM WRENCH	1
403	OR91728	5MM WRENCH	1
404	OR91729	6MM WRENCH	1
405	OR90908	8MM / 10MM OPEN END WRENCH	1
406	OR93975	12MM / 14MM OPEN END WRENCH	1
407	OR94283	OPEN END WRENCH	1
408	OR90333	M6 x 12mm HEX HEAD SCREW	6
409	OR90059	M8 FLAT WASHER	6
410	OR71863	DUST CHUTE	1
411	OR71864	DUST HOOD	1
412	OR93372	M6 x 12mm SOC HD CAP SCREW	6
413	OR90059	M8 FLAT WASHER	6
414	OR71865	CHIP GASKET	1
420	OR71008	CUTTERHEAD PULLEY	1
421	OR90616	5/16 - 18 HEX NUT	2
422	OR90311	M8 FLATWASHER	2
423	OR71009	BELT GUARD REAR	1
424	OR94029	M6 x 12mm HEX HEAD SERRATED SCREW	4
425	OR90311	M8 FLAT WASHER	1
426	OR91752	M8 x 25mm HEX HEAD SCREW	1
427	OR71010	BELT GUARD MOUNT	2
428	OR71011	BELT	3
429	OR71012	BELT GUARD FRONT	1
430	OR94050	KNOB	2
435	OR71866	POWER SWITCH	1
436	OR94046	10 - 24 x 1 3/4 PAN HD SCREW	2
437	OR71867	SWITCH MOUNT	1
438	OR90374	10 - 24 HEX NUT	2
439	OR90053	#10 EXTERNAL TOOTH WASHER	2
440	OR93372	M6 x 12mm SOC HD CAP SCREW	2
441	OR94045	STRAIN RELIEF	2
442	OR90304	M20 FLAT WASHER	4
443	OR71000	MOTOR CORD	1
444	OR71868	POWER CORD	1
446	OR71006	KNIFE SETTING GAGE SHAFT	1
447	OR94049	E-RING	4
448	OR71869	KNIFE SETTING GUAGE	2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KEY NO.	PART NO.	DESCRIPTION	QTY.
501	OR71870	GEAR BOX ASSY CONST. OF REF 502 TO 547	1
502	OR71871	CHAIN & TENSIONER ASSY CONST. OF REF 503 TO 511	1
503	OR70974	CHAIN TENSIONER SHAFT	1
504	OR70973	CHAIN TENSIONER	1
505	OR71872	TENSIONER BRACKET	1
506	OR94284	M6 x 35mm SOC HEAD CAP SCREW	1
507	OR90059	M6 FLAT WASHER	1
508	OR71026	SPROCKET	1
509	OR94285	CHAIN	1
510	OR94038	M6 x 16mm HEX HEAD SCREW	1
511	OR94052	6.2mm x 20mm x 3mm FLAT WASHER	1
512	OR94062	KNOB	1
513	OR94064	O-RING	1
514	OR71027	SHAFT	1
515	OR71028	SHIFTING CLAW	1
516	OR94029	M6 x 12mm HEX HEAD SERRATED SCREW	1
517	OR93936	M6 x 25mm SOC HD CAP SCREW	6
518	OR71015	PIN	2
519	OR71016	GEARBOX COVER	1
520	OR92734	BALL BEARING (6201)	1
521	OR94051	5mm x 5mm x 12mm KEY	1
522	OR71017	SHAFT	1
523	OR71018	GEAR	1

KEY NO.	PART NO.	DESCRIPTION	QTY.
524	OR92734	BALL BEARING (6201)	1
525	OR93936	M6 x 25mm SOC HD CAP SCREW	1
526	OR71019	GEAR	1
527	OR90366	BALL BEARING (6204ZZ)	1
528	OR93372	M6 x 12mm SOC HD CAP SCREW	1
529	OR94052	6.2mm x 20mm x 3mm FLAT WASHER	1
530	OR94053	OIL SEAL	1
531	OR94054	PLUG	1
532	OR71020	GEARBOX	1
533	OR94054	PLUG	1
534	OR71021	GEARBOX GASKET	1
535	OR94055	BALL BEARING (6201Z)	1
536	OR71022	GEAR ASSEMBLY	1
537	OR71023	SHAFT	1
538	OR94060	6mm x 6mm x 40mm KEY	1
539	OR94056	SPRING	1
540	OR94057	STEEL BALL	1
541	OR94058	OIL SEAL	1
542	OR94059	BALL BEARING (6204Z)	1
543	OR94055	BALL BEARING (6201Z)	1
544	OR71024	GEAR	1
545	OR94061	5mm x 5mm x 10mm KEY	1
546	OR71025	SHAFT	1
547	OR94055	BALL BEARING (6201Z)	1
	OR71873	Manual (not shown)	1
	OR71874	Manual French (not shown)	1
	OR71875	Manual Spanish (not shown)	1

◆ NOTES ◆

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5 Year Warranty